CCD-TR105E
RMT-507

SERVICE MANUAL

AEP Model
UK Model
E Model
Australian Model

SONY
SONY
6x
Video8
Handycam

Video 8
Handycam

FL MECHANISM

SPECIFICATIONS

System

Video recording system	Four Rotary heads, Helical scanning FM system
Audio recording system	Four Rotary heads, Helical scanning FM system
Video signal	PAL colour, CCIR standards
Usable cassette	8 mm video format cassette
Tape speed	SP mode: Approx. 20.051 mm (13/16 inch)/second LP mode: Approx. 10.058 mm (13/32 inch) second
Recording time	SP mode: 1 hour and 30 minutes (P5-90) LP mode: 3 hours (P5-90)
Playback time	SP mode: 1 hour and 30 minutes (E5/P5-90) LP mode: 3 hours (P5-90)
Fast-forward/rewind time	Approx. 8.5 min. (E5/P5-90)
Image device	CCD (Charge Coupled Device)
Viewfinder	Electronic viewfinder (black and white)
Lens	Combined 6 × power zoom lens f = 5.8 – 35 mm (1/4 to 1 7/16 inches) F 1.8 37 mm (1 1/2 inches)
Autofocus system	TTL autofocus system inner focus wide macro system
Colour temperature	Automatic
Minimum illumination	4 lux (F 1.8)
Illumination range	4 lux – 100,000 lux (0.4 – 9,290 footcandles)
Recommended illumination	More than 100 lux (9.3 footcandles)

Input and output connector

AEP, UK model

Video output	Phono jack, 1 Vp-p, 75 ohms unbalanced sync negative
Audio output	Phono jacks (2) Output: −7.5 dBs, (at output impedance 47 kilohms) impedance less than 2.2 kilohms
DC OUT	Special minijack, DC 5V
Remote jack	Stereo mini-minijack
MIC jack	Stereo minijack, −66 dBs, low impedance with 2.5 – 3 V DC output, impedance 6.8 kilohms

E, Australian model

Video input/output	Selectable with the video/audio INPUT/OUTPUT selector Phono jack, 1 Vp-p, 75 ohms unbalanced sync negative

— Continued on next page —

8 VIDEO CAMERA RECORDER

SONY®

Audio input/output	Selectable with the video/audio INPUT/OUTPUT selector Phono jacks (2) Input: −7.5 dBs, input impedance more than 47 kilohms Output: −7.5 dBs, (at output impedance 47 kilohms) impedance less than 2.2 kilohms

General

Power requirements	On battery mounting surface 6.0 V (battery pack) 7.5 V (AC power adaptor) 9.0 V (alkaline batteries)
Power consumption	5.6 W (camera recording) including the viewfinder
Installation	Vertically, Horizontally
Operating temperature	0°C to 40°C (32° F to 104° F)
Storage temperature	−20°C to +60°C (−4° F to +140° F)
Dimensions	Approx. 105 × 99 × 166 mm (w/h/d) (4 1/4 × 4 × 6 5/8 inches)
Weight	Approx. 590 g (1 lb 4 oz) excluding the battery and cassette
Microphone	Electret condenser microphone, stereo type

Supplied accessories

The camcorder is packed together with the following units. Check to see that everything is contained in the package. (*Attached to the camcorder)

- Wireless Remote Commander (1)
- Remote Commander holder (1)
- A/V connecting cable (3 phono to 3 phono) (1)
- 21-pin adaptor (1)
- Battery pack NP-55 (1)
- AC power adaptor AC-V30 (1)
- Lithium battery CR2025 (2)
- RFU adaptor RFU-90E (1) (AEP model)
  RFU-90AS (1) (Australian model)
  RFU-89EA with an aerial selector and a screwdriver (1) (UK/E model)
- Shoulder strap (1)
- Jack cover (1)*
- Cassette tape (1)
- Handy Manual

Design and specifications are subject to change without notice.

Note

This appliance conforms with EEC Directive 87/308/EEC regarding interference suppression.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
4. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
5. Check the B+ voltage to see it is at the values specified.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

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SERVICE NOTE

[SEMICONDUCTOR FOR CORRECTION LIST DISPLAY]

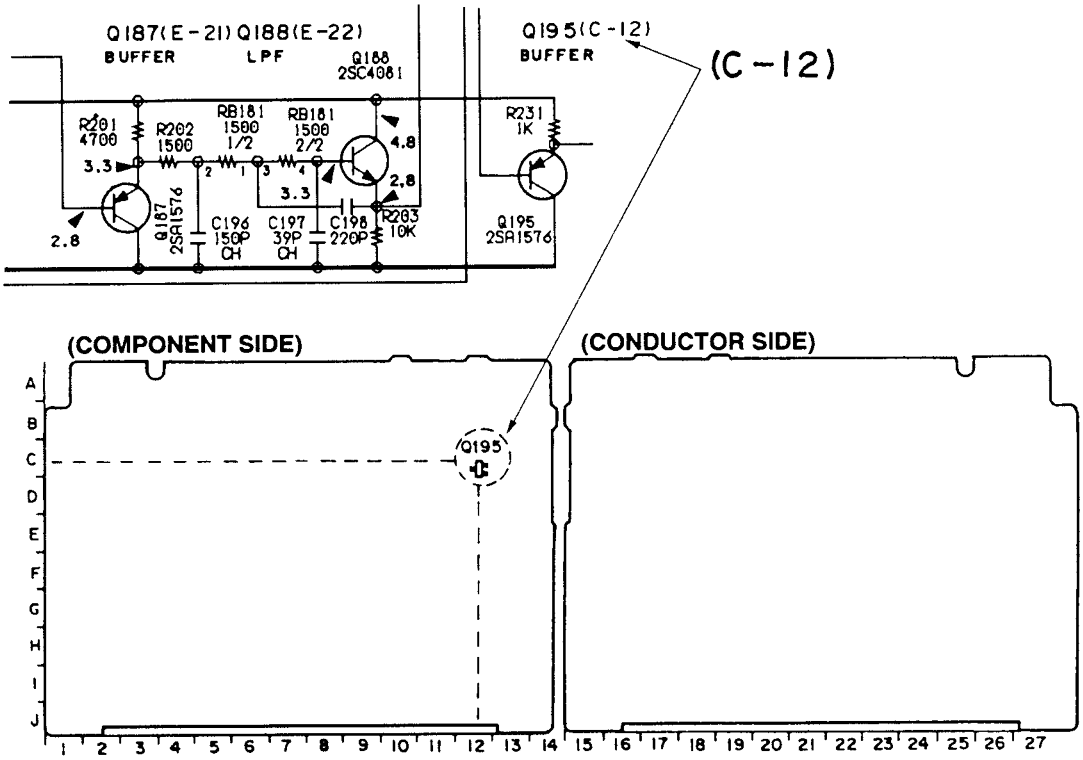
Part code and part name of the semiconductor for correction of the print board is discribed in the space of each print figure. Use this list when ordering parts.

[PARTS LOCATION DIAGRAM RELATED TO POWER SUPPLY]

The parts location diagram for the power supply which are often checked and replaced when repairing the fuse and IC link and so on. (See pages 98 and 160.)
This diagram is useful for repair.

[SEMICONDUCTOR LOCATION]

In this service manual, the mounted locations of the semiconductors (IC, transistor, diodes) are indicated in red sa shown below. This enables to find the location on the board easily when servicing.



Q187(E-21) Q188(E-22)
BUFFER
LPF
Q188
2SC4081
Q195(C-12)
BUFFER
(C-12)
R201
4700
R202
1500
RB181
1500
1/2
RB181
1500
2/2
4.8
3.3
2
1
3
4
3.3
2.8
2.8
Q187
2SA1576
C196
150P
CH
C197
39P
CH
C198
220P
R203
10K
R231
1K
Q195
2SA1576
(COMPONENT SIDE)
(CONDUCTOR SIDE)
Q195
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B
C
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[HEAD CLEANING]

After an extended period of use the video image may become indistinct or may not appear at all during playback of a tape. The cause of this usually are dirty video heads. For remedy, cleaning of the heads is required.

Check for Head Clogs During Recording

① Use a blank tape, record a short section, then press the stop button to stop.
② Set to recording mode again.
③ If the [✣] mark is flashing in the viewfinder at this time, head clogs are occurred.

Check During Playback of a Tape

① Play back a pre-recorded tape and display the image on a TV screen.
② If there is no sound and the image is unstable, no image appears on the screen, or tape transport is unstable, head clogs are occurred.

Remedy

[Cleaning method using a cleaning tape]

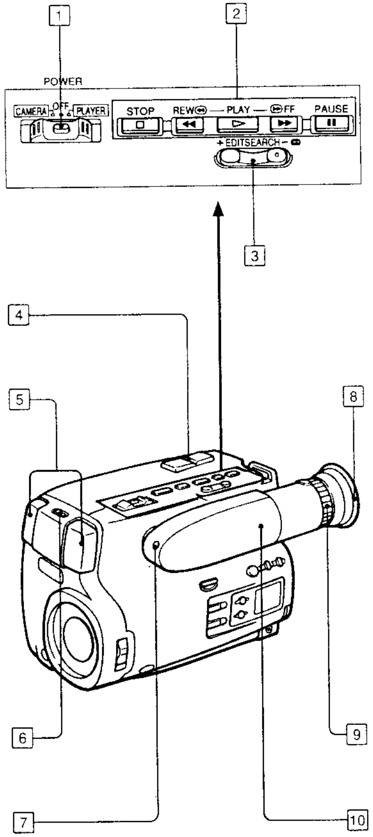
- Use the Cleaning Tape V8-6CLH. (Please follow the instructions attached to the cleaning tape.)

SECTION 1
GENERAL

This section is extracted from instruction manual of AEP/UK model.

Identifying the Parts

(A-1)



For details on the use of each control, refer to the pages indicated in the circle.

(A-1)

1 **POWER switch**
CAMERA: For camera recording
PLAYER: For playing back or editing tapes
OFF: Power off

2 **Tape transport buttons**
▷ PLAY (playback)
▶▶ FF (fast forward)
◀◀ REW (rewind)
□ STOP
❚❚ PAUSE

3 **EDITSEARCH ⊖ button ㉛–㉞**

4 **Power zoom button ㊱, ㊵, ㊶**

5 **Built-in microphone (stereo)**

6 **BUILT-IN MIC switch ㉚**
Usually set to the green position. When using the camcorder in a strong wind, set to "WIND".

7 **Camera recording/battery lamp**
Lights during camera recording. It flashes when the battery is discharged.

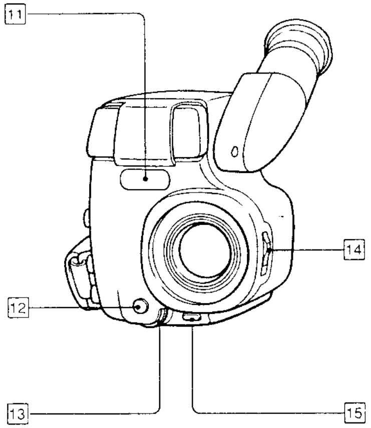
8 **Eyecup**

9 **Viewfinder lens adjustment ring ㉗**
Adjust to your eyesight to assure good focus. Be sure to adjust this ring when shooting for the first time.

10 **Viewfinder (68)**
You can monitor the monochrome picture being recorded or played back.
The caution indicators and function modes also appear here.

Identifying the Parts

(A-2)



(A-2)

11 **Remote sensor ⑫**

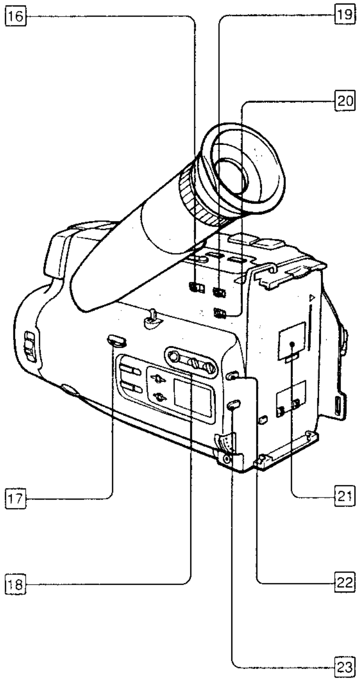
12 **FOCUS ON/OFF button ㊱, ㊷**
Used for manual focusing.

13 **Focus dial ㊱, ㊷**

14 **LENS COVER switch ㉘**

15 **FADER button ㊸**

(A-3)



(A-3)

16 HI-FI SOUND switch (58)
Set to appropriate position when playing back the tape.

17 SHUTTER SPEED button ㊳
Used to select the shutter speed.

18 Superimpose buttons ㊽–(51)
MEMORY button
COLOR/MODE button
SUPERIMPOSE ON/OFF button

19 REMOTE COMMANDER ■ ON/OFF switch ⑪
Set to the ON when using the supplied Remote Commander.

20 REC MODE (recording mode)/EDIT switch ㉘, (61)
Switch it depending on the operating mode.

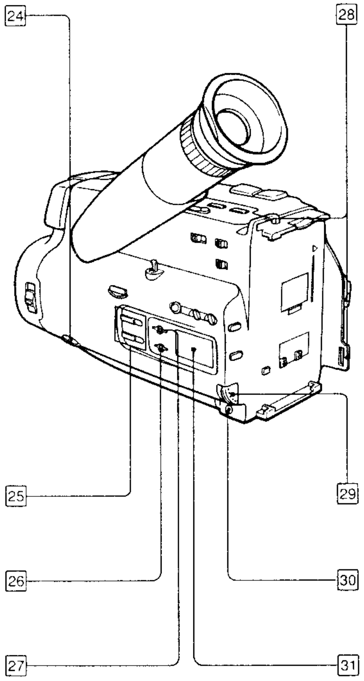
Mode	Recording	Playback	Editing
Setting	LP SP REC MODE	EDIT	EDIT
Function	Recording mode switch	EDIT switch	

21 Lithium battery compartment ㉒

22 COUNTER RESET button (60)
Press to reset the counter zero.

23 ZERO MEM (zero memory) button ㉝, (60)
Use to memorize the counter zero point.

(A-4)



(A-4)

24 BACK LIGHT button ㊴

25 DATE (+) and TIME (NEXT) buttons ㉓
Press to display or turn off the date or time.

26 AREA button ㊹
Press to set the time of the place where you live or to adjust the time of the place where you are using the camcorder.

27 SUMMER TIME button ㊺
Press to set summer time after setting the date and time.

28 Hooks for shoulder strap
Attach the shoulder strap.

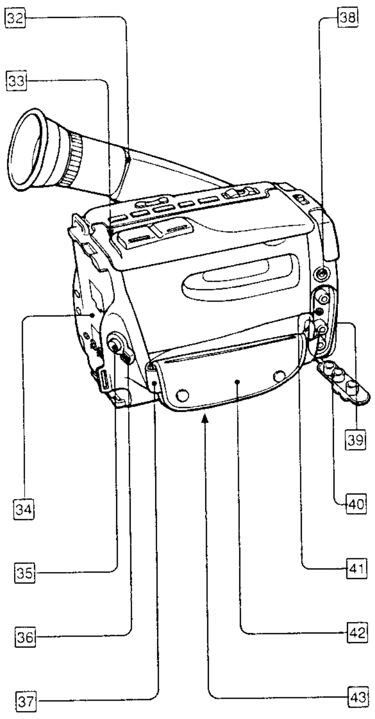
29 BATT (battery eject) knob ⑯
Press to remove the battery.

30 REMOTE ⏻ (LANC)* control jack (stereo mini-mini-jack)
Connect a wired remote control unit, an editing controller, or other equipment here.

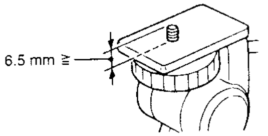
31 Display window (69)

*** About ⏻ (LANC)**
⏻ (LANC) stands for Local Application Control Bus System. The ⏻ (LANC) connector is used for controlling the tape transport of video equipment and the peripherals connected to it. This connector has the same function as the connectors indicated as CONTROL L or REMOTE.

(A-5)



(A-6)



(A-5)

32 **Camera recording/battery lamp**

33 **EJECT button (below the lid) ㉕**
Press to lift up the cassette compartment and to open it automatically.

34 **Battery mounting surface**

35 **START/STOP button ㉘**
Press to start and stop camera recording.

36 **STANDBY switch ㉘**
Turn it up to set the camcorder to the standby mode.

37 **Grip strap**
Adjust the length so that your thumb can easily manipulate the START/STOP button.

38 **MIC jack (PLUG IN POWER) (stereo minijack)**
Connect an external stereo microphone (not supplied).

39 **VIDEO/AUDIO output jacks (phono jacks)**

40 **Jack cover**

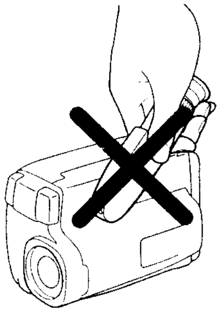
41 **DC OUT (RFU adaptor DC output) jack (special minijack)**
Attach the supplied RFU adaptor here if necessary. This jack also supplies power to an external microphone.

42 **Grip strap cover**

43 **Tripod receptacle**

Note (A-6)
When attaching a non-Sony tripod, make sure that the length of the camera mounting screw is less than 6.5mm. Otherwise, the screw may damage the inner parts of the camcorder.

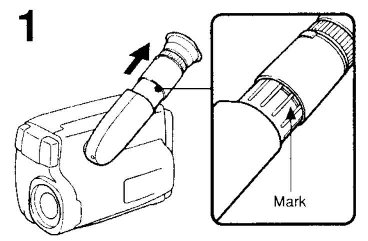
(A-7)



Caution (A-7)
Do not pick up the camcorder as shown in the illustration.

(A-8)

1



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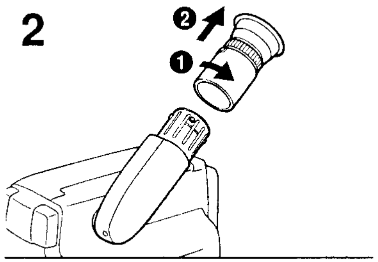
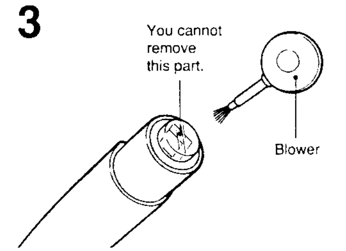


3



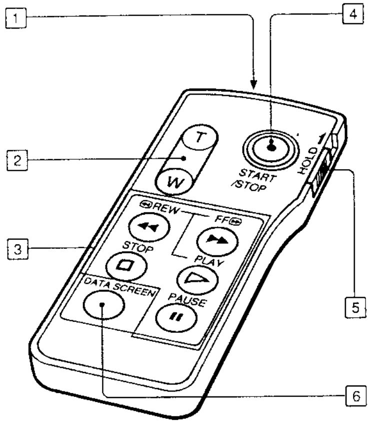
To remove dust from inside the viewfinder (A-8)

1 **Pull out the viewfinder barrel until the mark appears.**

2 **Turn it counterclockwise until it stops (❶) and pull out (❷).**

3 **Clean the surface of the cover with a blower.**

(A-9)



Wireless Remote Commander

You can remotely record or play back a tape. The buttons on the Remote Commander with the same name or same mark as those on the camcorder have the same function.

When you use the Remote Commander ▦
Be sure to set REMOTE COMMANDER ON/OFF on the camcorder to "ON", and then start operation of the camcorder, with the transmitter pointing towards the remote sensor. (See "Remotely controllable area" on page 12.)

(A-9)

1 Transmitter

2 Power zoom button

3 Tape transport buttons
◀◀ REW (rewind) button
▶▶ FF (fast forward) button
□ STOP button
▷ PLAY button
❚❚ PAUSE button

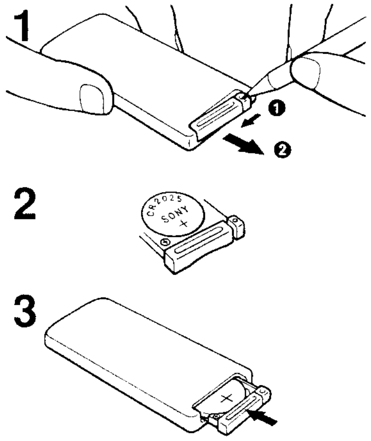
4 START/STOP button

5 HOLD switch*
Slide in the direction of the arrow to prevent the buttons from being accidentally depressed.

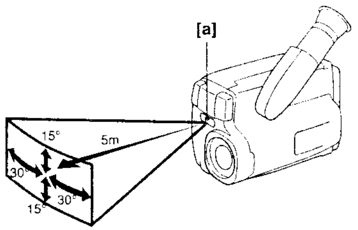
6 DATA SCREEN button* ㊾

Note
The * indicates the function which is operable only with the Remote Commander.

(A-10)



(A-11)



Installing the Lithium Battery (A-10)
Install the supplied CR2025 lithium battery into the Remote Commander with the polarities positioned correctly.

1 **Pull out the lithium battery holder from the Commander.**

2 **Install the lithium battery with the + side facing upward.**

3 **Put the lithium battery holder back into the Commander.**

Remotely controllable area (A-11)
Point the Remote Commander towards the remote sensor **[a]**.

Notes on the Remote Commander

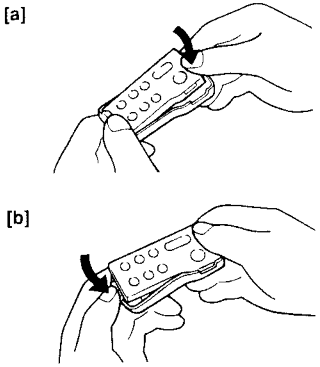
- Keep the remote sensor away from strong light sources such as direct sunlight or illumination. Otherwise the remote control may not be effective.
- Be sure that there is no obstacle between the remote sensor and the Remote Commander.
- The command mode of the Commander is VTR2. Avoid using the Sony VTRs with the same command mode at the same time.
- Be sure to set REMOTE COMMANDER ▣ ON/OFF on the camcorder to OFF when you connect the receiver of a remote control kit (not supplied) to the REMOTE ⊂ control jack.

Lithium battery life
The battery lasts for approximately 6 months under normal operation.
When the Remote Commander does not work, the lithium battery becomes weak or dead.
In this case, **replace the battery with a Sony CR2025. Use of any other type of battery may present a risk of fire or explosion.**

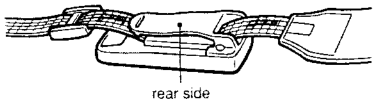
CAUTIONS

- Keep the lithium battery out of the reach of children. Should the battery be swallowed, immediately consult a doctor.
- Wipe the battery with a dry cloth to assure a good contact.
- Be sure to observe the correct polarity when installing the battery.
- Do not hold the battery with the metallic tweezers, otherwise a short-circuit may occur.
- The battery may explode if mistreated. Do not recharge, disassemble, or dispose of in fire.

(A-12)



(A-13)



Attaching the Remote Commander to the Remote Commander holder (A-12)

[a] When attaching the Remote Commander to the Remote Commander holder

[b] When detaching the Remote Commander from the Remote Commander holder

You can clip the Remote Commander holder on your coat pocket or belt, or also slide it onto the shoulder belt before attaching the Remote Commander to it **(A-13).**

Preparing your camcorder 1

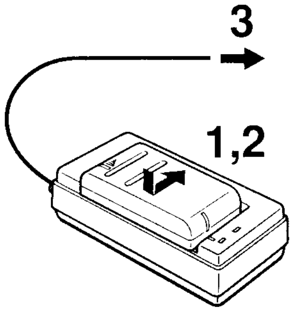
Connecting the Power Sources

First, Choose the Power Source.

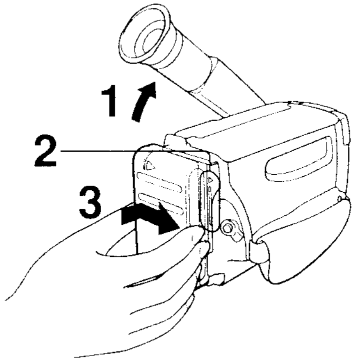
Place	Power source	Accessory to be used
Outdoors	Battery pack	Battery pack NP-55 (supplied), NP-66H, NP-77, NP-77H, NP-77HD
	Alkaline batteries	Battery case EBP-77
Indoors	House current	AC power adaptor AC-V30 (supplied), AC-V55, AC-S10
In the car	12V or 24V car battery	DC pack DCP-77, AC power adaptor AC-V55, the car battery cord DCC-16AE and the car battery charger DC-S10

Note on power source
Disconnecting the power source or removing the battery pack during recording or playback may damage the inserted tape. In this case supply power again immediately.

(B-1)



(B-2)



Using the Battery Pack

Step 1

Charge the battery pack. (B-1)

1 **Align the right side of the battery pack with the line on the AC power adaptor.**

2 **Slide in the battery pack to the right.**

3 **Connect the AC power adaptor to a wall outlet.**

	NP-55	NP-77H/77HD	NP-77	NP-66H
Required charging time	60	140	120	110

(approx. minutes using AC-V30)

See the instruction manual of the AC power adaptor for details.

Step 2

Mount the battery pack on the camcorder. (B-2)

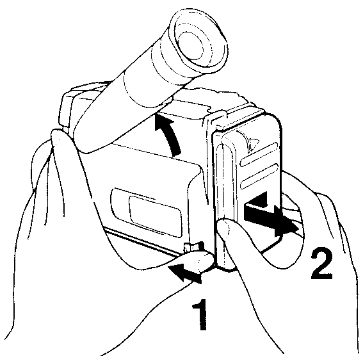
1 **Lift up the viewfinder.**

2 **Align the right side of the battery pack with the white line on the camcorder.**

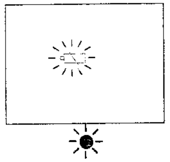
3 **Slide the battery pack to the right.**

Note
Make sure the battery fits completely on the mounting surface of the camcorder. Imperfect fit may damage the projections on the camcorder.

(B-3)



(B-4)



To remove the battery pack
(B-3)

1 While pressing the BATT knob in the direction of the arrow, **2** slide the battery pack to the left and pull it out as illustrated.

Battery life

A fully charged battery pack lasts for:

	NP-55	NP-77H/77HD	NP-77	NP-66H
Battery life	55	150	120	110

(approx. minutes, continuous recording indoors)

When the battery becomes weak (B-4)

The ▭ indication and red lamp flash slowly in the viewfinder.

Replace the battery pack with a fully charged one.

The ▭ indication also appears in the display window.

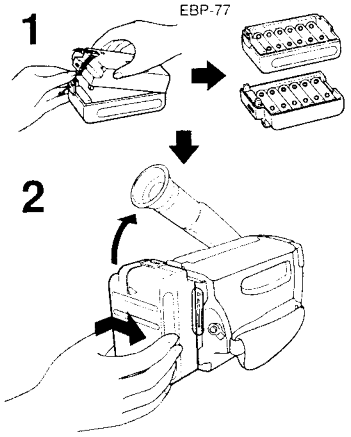
Other options for charging

- AC-V55 AC power adaptor:
  You can charge two battery packs simultaneously.
- AC-S10 AC power adaptor:
  This adaptor has a discharging function. When you want charging only, slide the skip switch on the adaptor in the direction of the arrow.
- BC-55 portable battery charger:
  You can charge a battery pack on 100 - 240 V AC.
- DC-V30 car battery charger:
  You can charge a battery pack by connecting the car battery charger to the cigarette lighter socket. This battery charger also supplies power for Sony 8 mm equipment that operates on a battery pack.
- DC-S10 car battery charger
  This charger has a discharging function. When you want charging only, slide the skip switch on the charger in the direction of the arrow.

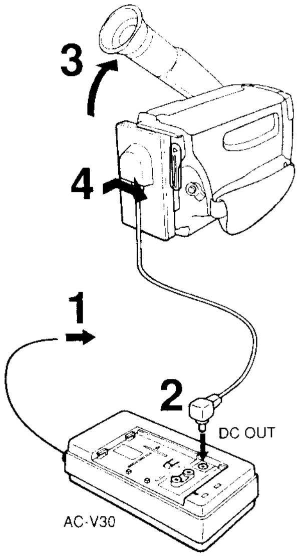
If you have an NP-4000 battery pack

You can use it for a long outdoor recording.

(B-5)



(B-6)



Using Alkaline Batteries

(B-5)

The EBP-77 battery case is required (not supplied) to use 12 alkaline batteries.

1 **Insert the R6 (AA) size alkaline batteries into the battery case.**

2 **Attach the case in the same way as the battery pack.**

Battery life (when using Sony alkaline batteries)
The battery lasts for approximately 2 hours and 15 minutes under continuous recording indoors. However, when you use non-Sony alkaline batteries, their life may shorten.

Notes on battery life

- Batteries will not last as long in cold places.
- No indication appears in the viewfinder when the batteries are weak.

To remove the battery case

Remove it in the same way you do the battery pack. See page 16.

Using House Current

(B-6)

Use the supplied AC-V30 AC power adaptor.

1 **Connect the AC power adaptor to a wall outlet.**

2 **Insert the connecting cord supplied with the AC-V30 AC power adaptor into the DC OUT jack on the AC power adaptor.**

3 **Lift up the viewfinder.**

4 **Align the right side of the connecting plate with the white line on the camcorder, and slide it in to the right.**

See the instruction manual of the AC power adaptor for details.

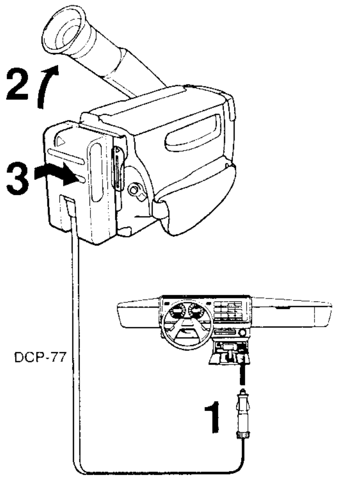
To remove the connecting plate

Remove it in the same way you do the battery pack. See page 16.

Other option

You can also use the AC-V55 and the AC-S10 AC power adaptors.

(B-7)



Using the Car Battery

(B-7)

The DCP-77 DC pack is required (not supplied) to use the car battery.

1 **Connect the cord to the cigarette lighter socket of a car (12V or 24V).**

2 **Lift up the viewfinder.**

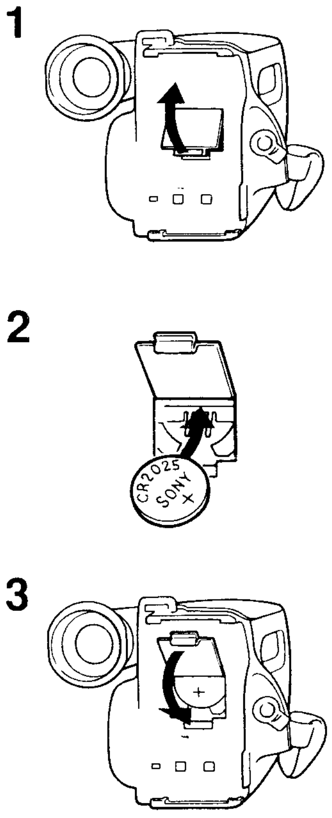
3 **Align the right side of the DC pack with the white line on the camcorder, and slide it in to the right.**

To remove the DC pack
Remove it in the same way as you do the battery pack. See page 16.

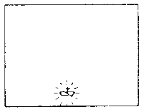
Other options
You can also use the AC-V55 AC power adaptor and the DCC-16AE car battery cord to operate this camcorder on a 12V or 24V car battery.

Setting the Date and Time

(D-1)



(D-2)



Inserting the Lithium Battery

(D-1)

This camcorder uses a lithium battery to activate the clock and to keep a title in memory. Before operating it for the first time, install the supplied lithium battery.

1 **Open the lid of the lithium battery compartment.**

2 **Install the supplied CR2025 lithium battery with the + side facing out.**

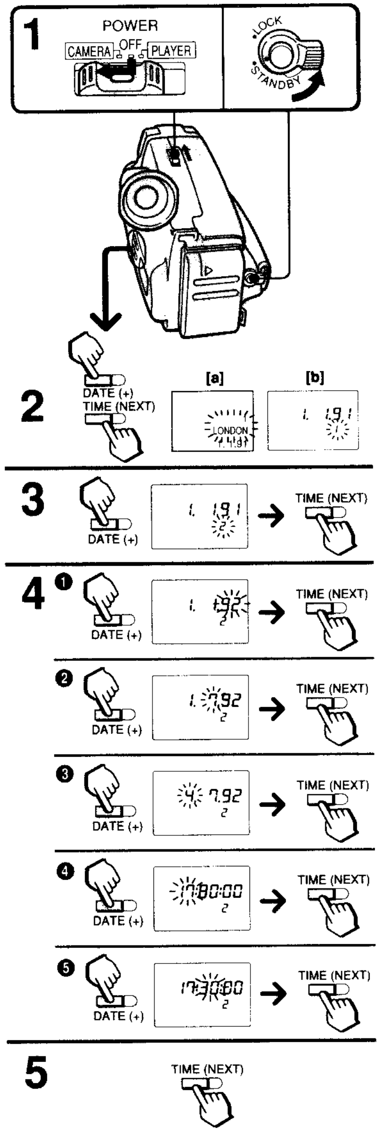
3 **Close the lid.**

To change the lithium battery
Remove the battery pack, open the lid of the lithium battery compartment, and replace the lithium battery with a new one.
After replacing the battery, readjust the date, time and title.

Lithium battery life
The battery lasts for approximately 1 year under normal operation.
When the lithium battery becomes weak, the 🔋 indication will flash on the viewfinder screen for about 5 seconds (when POWER is set to CAMERA). (D-2)
In this case, replace the battery with a Sony CR2025 battery. Use of any other type of battery may present the risk of fire or explosion.
After replacing the battery, readjust the date, time and title.

CAUTIONS
- Keep the lithium battery out of the reach of children.
  Should the battery be swallowed, immediately consult a doctor.
  Wipe the battery with a dry cloth to assure a good contact.
- Be sure to observe the correct polarity when installing the battery.
- Do not hold the battery with the metallic tweezers, otherwise a short-circuit may occur.
- The battery may explode if mistreated.
  Do not recharge, disassemble, or dispose of in fire.

(D-3)



Setting the Date and Time

(D-3)

Make sure that a power source and lithium battery are installed.

1 **While pressing the green button, set POWER to CAMERA, and turn STANDBY up.**

2 **Press DATE and TIME simultaneously for more than 2 seconds until "1 LONDON" flashes inside the viewfinder [a] and " 1 " flashes in the display window [b].**
DATE now functions as + (to advance numbers) and TIME functions as NEXT (to execute).

3 **Press + until your area name and number appears and then press NEXT.**
The following table is for reference to select your area name and number depending on where you live.
(See pages 46 and 47.)

Countries	Area name	Area number
The United Kingdom and Portugal (GMT)	LONDON	1
Other European countries (CET)	PARIS	2
Finland, Greece, etc.	CAIRO	3

4 **Set the year, month, day, hour and minute, in this order.**
First adjust the flashing digits with + and then press NEXT.

5 **Press NEXT to set the second.**
The clock starts operating.

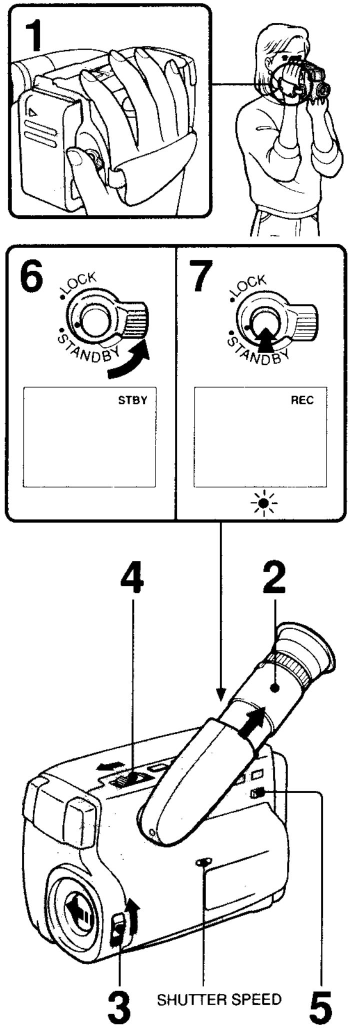
To correct the date and time setting
Press NEXT repeatedly until the digits of minute stop flashing. Then repeat step 2 to 5.

To advance the digits faster
Keep + pressed.

To check the preset date and time
Press DATE or TIME. When you press the same button again, the indication goes off.

To set summer time
Press SUMMER TIME. The time changes to summer time, and ☀ indication appears inside the viewfinder and in the display window.
To set to standard time, press SUMMER TIME again.

(G-1)



Recording a Picture Using Automatic Adjustments

Before recording "once-only" events, we strongly recommend you make a trial recording and check that everything is working properly.

(G-1)

Start Recording

1 **Hold the camcorder as illustrated.**
Put your hand through the grip strap and check that your thumb can easily touch START/STOP.

2 **Make sure that the viewfinder is pulled out.**

3 **Slide LENS COVER to OPEN.**

4 **While pressing the green button, set the POWER to CAMERA.**

5 **Set REC MODE to LP (long play) or SP (standard play), according to the length of your planned recording.**

6 **Turn STANDBY up.**
"STBY" appears in the viewfinder. If the shutter speed indication appears in the viewfinder, press SHUTTER SPEED repeatedly until it goes out.
The camcorder is now in the standby mode, and focus is adjusted automatically.

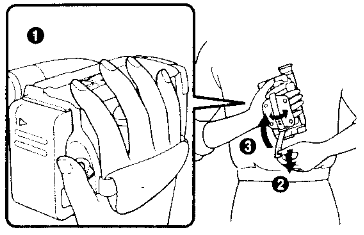
7 **Press START/STOP.**
"REC" appears and the red lamp lights up in the viewfinder. The camcorder is now recording.

To standby (to stop momentarily)
Press START/STOP again.
"STBY" appears in the viewfinder. The camcorder is in standby mode again.

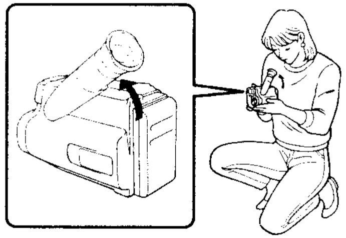
To stop
Turn STANDBY down and set POWER to OFF.

Note
Shoot the subject at the wide-angle position in macro. At the telephoto position, if the subject is closer than 1 m (3 ft. 3 3/8 in.), it cannot be brought into focus.

(G-2)



(G-3)



How to fit the grip strap (G-2)
Looking at step 1 on the previous page, hold the camcorder against your body and pull the grip strap upward.

For low-position recording (G-3)
The viewfinder can be turned 90 degrees upward.
It can be used in either the pushed-down or pulled-out position.

Near the end of the tape
The ▭ indication, the red lamp inside the viewfinder, and the camera recording/battery lamp on the camcorder flash slowly. When the tape reaches the end, the flashing becomes rapid.

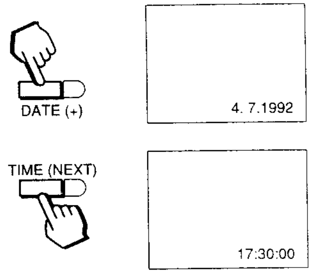
Note on recording
To record from the beginning of the tape, run the tape for about 15 seconds before recording. This will avoid missing the starting point when the tape is played back.

Note on the standby mode
If you leave the camcorder in the standby mode for 5 minutes or more, the camcorder will go off automatically. To resume the standby mode, turn STANDBY down once and slide it up again. To start recording, press START/STOP directly.

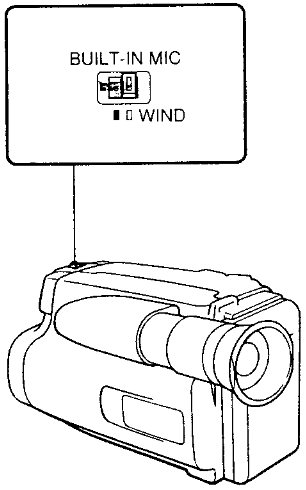
Recording mode
You can record and play back a picture on a tape in both SP (standard play) and LP (long play) modes.
However, the quality of the playback picture in the LP mode will not be as good as that in the SP mode.

Note on PCM recording and playback
PCM recording or playback is not possible with this camcorder.
The PCM sound recorded or after-recorded with another video recorder cannot be played back with this camcorder.

(G-4)



(G-5)



To Record Date or Time

(G-4)

During camera recording or when in recording pause mode, press DATE for date indication or TIME for time indication.
The date or time displayed in the viewfinder is recorded with the picture.

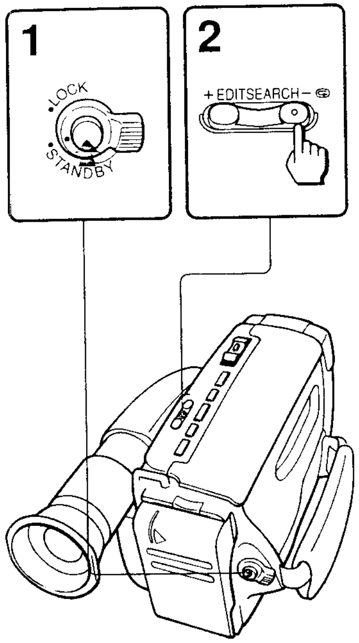
To stop recording date or time
Press DATE or TIME again.
The picture recording continues.

When There is a Strong Wind

(G-5)

Set BUILT-IN MIC to "WIND."
The noise from the wind will be reduced. The (wind) indication appears inside the viewfinder.
After recording, set it to the green position (green mark). If you forget to do this, sound may be recorded unnaturally because of this function.

(G-6)



To Check the Last Portion of the Previous Recording

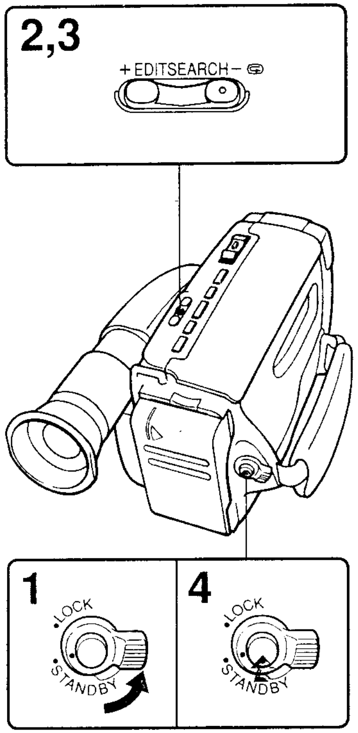
(G-6)

1 **Set the camcorder in the recording pause mode by pressing START/STOP.**

2 **Press – side of EDITSEARCH (⊜) momentarily.**
The last few seconds of the recorded portion are rewound and then the recorded picture appears inside the viewfinder. After a few seconds of playback, the camcorder goes back to recording pause mode.

If the picture has not been recorded
The video heads may be contaminated. Clean the heads using the Sony V8-25CLH video head cleaning cassette or equivalent.

(G-7)


2,3
+ EDITSEARCH −
1
LOCK
STANDBY
4
LOCK
STANDBY

To Re-record over Previously Recorded Portion during Recording

(G-7)

1 **Turn STANDBY up to set the camcorder to the standby mode.**

2 **Look in the viewfinder and find the point from where you want to begin the recording:**
Keep pressing the + side of EDITSEARCH to advance the picture at a normal playback speed, or the − side to reverse the picture at a normal playback speed.

3 **At the desired point, release EDITSEARCH.**

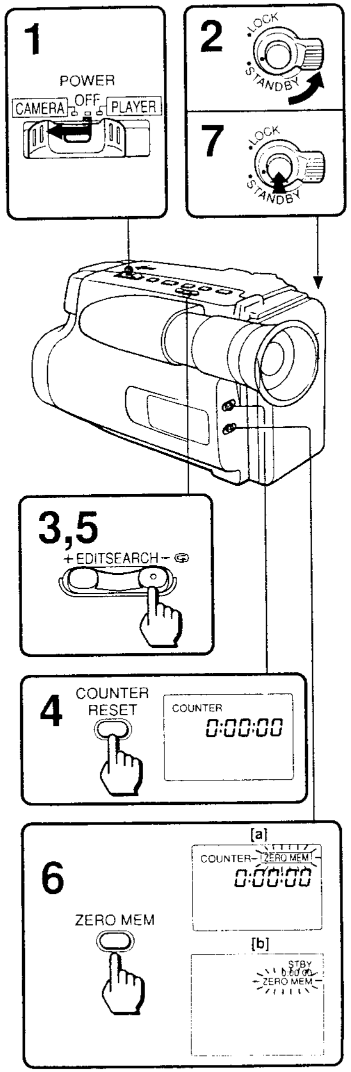
4 **Press START/STOP to start recording.**

To pause
Press START/STOP again.

To stop
Turn STANDBY down.

Note
A smooth transition between scenes can be made even if STANDBY is turned down and up, or even if the power is turned off and on again, provided that the tape is not removed.

(G-8)


1
POWER
CAMERA
OFF
PLAYER
2
LOCK
STANDBY
7
LOCK
STANDBY
3,5
+ EDITSEARCH −
4
COUNTER
RESET
COUNTER
0:00:00
6
ZERO MEM
[a]
COUNTER
ZERO MEM
0:00:00
[b]
STBY
0:00:00
ZERO MEM

To Re-record a Picture in the Middle of a Recorded Tape (Insert Recording)

(G-8)

1 **While pressing the green button, set POWER to CAMERA.**

2 **Turn STANDBY up to set the camcorder to the standby mode.**

3 **While looking in the viewfinder, keep pressing the + or − side of EDITSEARCH and release the button where you want to end the insertion.**
The camcorder is set to standby mode.

4 **Press COUNTER RESET.**
The counter is reset to zero.

5 **While looking in the viewfinder, keep pressing the − side of EDITSEARCH and release the button at the point where you want to start the insertion.**

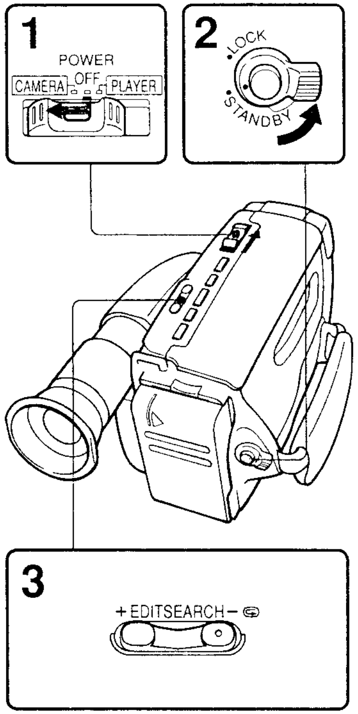
6 **Press ZERO MEM.**
The insert ending point is stored in memory.
[a] Display window
[b] Viewfinder

7 **Press START/STOP.**
Insert recording begins.
It stops automatically near the counter zero point.

To cancel ZERO MEM
Press ZERO MEM.

Note
The picture may be distorted at the end of the inserted portion when played back.

(G-9)



Playing Back the Picture Instantly

(G-9)

You can check the recorded picture in the viewfinder.

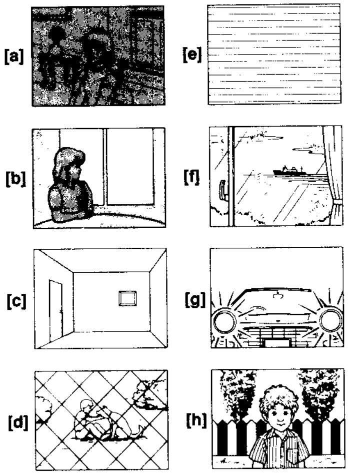
1 **While pressing the green button, set POWER to CAMERA.**

2 **Turn STANDBY up.**

3 **Keep pressing the + or – side of EDITSEARCH to play back the picture.**
+ **side:** to view the playback picture
– **side:** to view the playback picture in reverse

To stop playback, release EDITSEARCH

(H-1)



Manual Focusing

Using the autofocusing, you can easily get a focused picture under most shooting conditions. But we recommend manual focusing in the following cases.

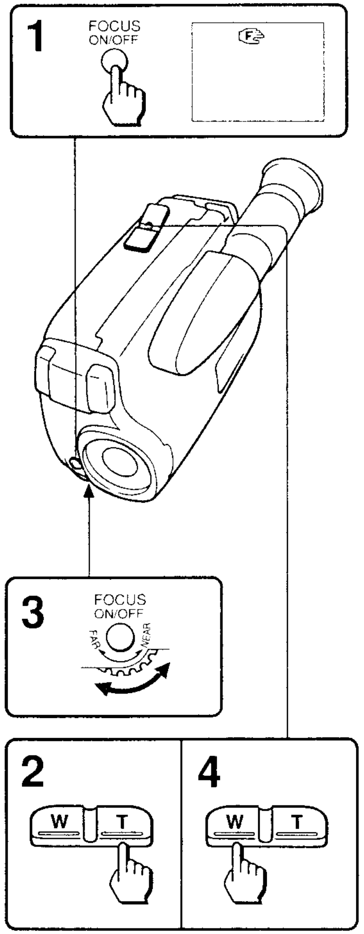
[a] to **[h]** correspond to the illustrations. **(H-1)**

[a] Insufficient light
[b] Too much brightness behind the subject
[c] Subject with little contrast—wall, sky, etc.
[d] Subjects beyond nets, etc., or another subject passes in front of the camcorder
[e] Horizontal stripes
[f] Subject through frosted glass
[g] Bright subject or subject reflecting light
[h] High contrast behind the subject (the background may be focused)
[i] Under the following circumstances
- When shooting a stationary subject using a tripod
- To save battery wear

Autofocusing does not function momentarily when:
- The setting of the shutter speed is changed.
- Exposure is adjusted manually.
- Lighting conditions change quickly.
- Zooming is changed from wide-range to telephoto.

This camcorder keeps in focus by referring to the picture contrast, which is weak in the above situations.

(H-2)



Manual Focusing

Focusing Manually

(H-2)

1 Press FOCUS ON/OFF.
The F (manual focusing) indication appears in the viewfinder.

2 **Keep pressing the T side of the power zoom button until the zooming stops (telephoto).**

3 **Turn the focus dial to achieve sharp focus.**

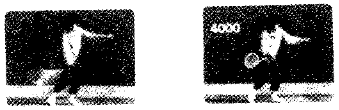
4 **Keep pressing the W side of the power zoom button to obtain the desired subject size.**

Some helpful hints

- When shooting in relatively dark places such as indoors, the depth of field in proper focus is very shallow. For best results, shoot at wide angles after focusing in telephoto.
- When shooting a scene with lots of movement in bright light, keep pressing the W side of the power zoom button until the zooming stops (wide angle).

Note
The focus dial does not have a stop position.

(I-1)



Setting the Shutter Speed

(I-1)

When you record a fast-moving subject, increase the shutter speed so that you can see a clear picture in playback pause mode.
The depth of field in proper focus becomes shallow at a higher shutter speed. This is effective to record the main subject in sharp focus and the surroundings out of focus.

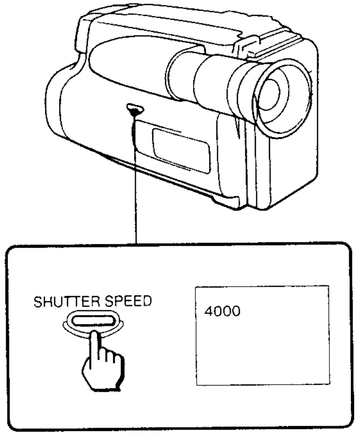
Note
When recording at a high-speed shutter setting, record in a brighter place than usual.

Recommended setting for your situation
Choose an appropriate shutter speed according to the situation, referring to the following chart.

Example use	Recommended shutter speed
• On clear days, recording a golf or tennis swing (To view the hit ball clearly in the still picture mode, set to 1/4000). • Recording skiers	1/4000 or 1/2000
• On overcast days, recording a moving merry-go-round or roller coaster • Recording outdoors from inside a vehicle (for stable shooting)	1/1000 or 1/250
• Instead of the ND2 filter (To reduce the exposure level to about a half) • Recording indoor sports (for stable shooting)	1/120

When playing back a picture recorded at certain speeds
Use 8mm video equipment with a clean still function to obtain a noiseless still picture.

(I-2)



Setting the Shutter Speed

Selecting the Shutter Speed

(I-2)

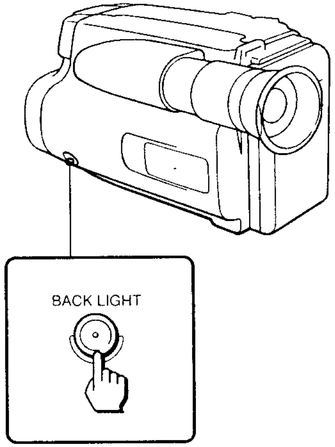
Press SHUTTER SPEED repeatedly until the desired shutter speed indication appears.
Each time you press the button, the indication changes as follows:

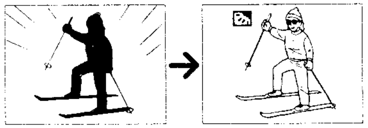
→ No indication (1/50) → 120 (1/120) → 250 (1/250)
↓
4000 (1/4000) ← 2000 (1/2000) ← 1000 (1/1000)

Notes

- When you select a shutter speed 1/1000 or faster, record under sunlight or use a video light.
- When you record a TV screen with certain shutter speeds, the brightness of the recorded picture may vary.
- When you shoot a very bright subject at a faster shutter speed, a vertical light, belt-like line (smear) may appear on the screen.
- When you record at certain shutter speeds under a light discharge tube, such as a fluorescent lamp, sodium lamp, or mercury lamp, the brightness of the recorded picture may vary (causing the picture to flicker).

(J)





Shooting with Backlighting

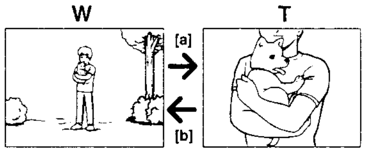
In this camcorder, the exposure is automatically controlled. However, when shooting a subject that is backlit, that is, if the light source is behind the subject, use BACK LIGHT. **(J)**

Press BACK LIGHT.
The ▨ indication appears in the viewfinder.

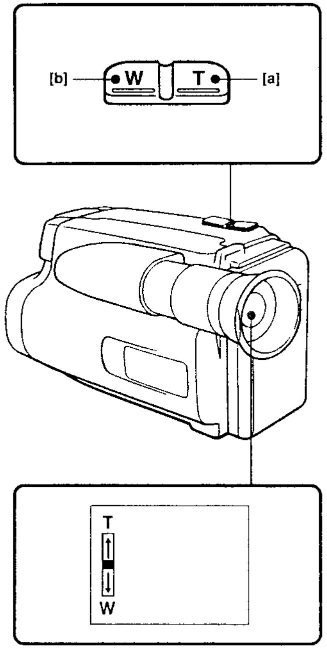
After shooting
Be sure to release this adjustment setting by pressing BACK LIGHT again. (The ▨ indication goes out.)
Otherwise, the recorded picture will be too bright.

Zooming

(K-1)



(K-2)



The size of the subject in the screen can be changed. Use "zoom-in" for dramatic close-ups **[a]**. Use "zoom-out" for panoramic long shots **[b]**. Also use zooming to focus manually or to decide the shooting angle. Rapid zooming can be effected by keeping the power zoom button fully depressed. **(K-1)**

Smooth and Constant Zooming

(K-2)

Keep the T side of the power zoom button lightly pressed for telephoto (subject appears closer) **[a]** and the W side for wide-angle (subject appears farther away) **[b]**.

Rapid Zooming—To Create a Dramatic Effect

(K-2)

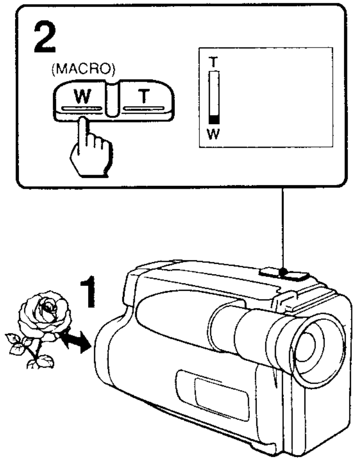
Keep the T side of the power zoom button fully depressed for telephoto **[a]** and the W side for wide-angle **[b]**.

Focal length of this camcorder
The focal length is 5.8 mm to 35 mm. This means approximately 42 mm to 252 mm when converted into the focal length of a 35-mm camera.

For more zooming effect
When you use VCL-0637A, VCL-1437A or VCL-TRA (a 37 mm conversion lens/not supplied), you can get more telephoto angle or wider angle.

Close-up (Macro)

(L-1)

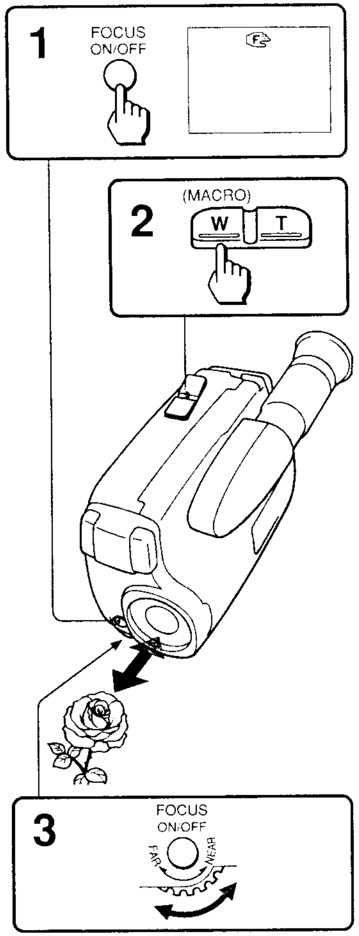


Autofocusing in Macro

Even small subjects, such as flowers, insects, and images in photographs, can literally fill the screen using autofocusing in macro. **(L-1)**
You can also shoot with manual focus in doing close-up. (See page 42.)

1. **Bring the camcorder as close as necessary to obtain the desired subject size.**
2. **Keep pressing the W (MACRO) side of the power zoom button until the zooming stops (wide-angled).**

(L-2)



Close-up (Macro)

Manual focusing in macro
(L-2)

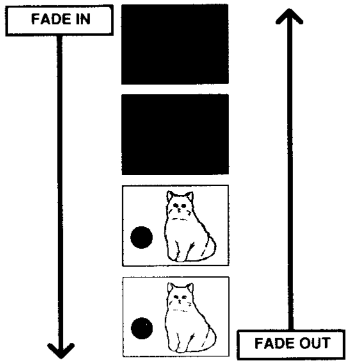
1 Press FOCUS ON/OFF.
The F (manual focusing) indication appears in the viewfinder.

2 **Keep pressing the W side of the power zoom button until the zooming stops (wide-angle).**

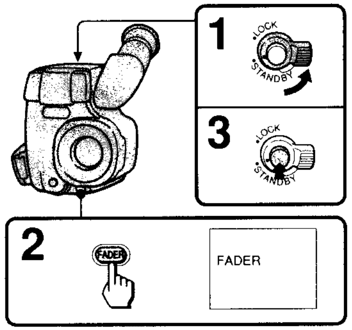
3 Turn the focus dial to achieve sharp focus.

Recommended accessory
When shooting in macro, the depth of field (distance range of the subject that will be in sharp focus) is very shallow, so pay attention to focusing. To keep the subject in focus, use a tripod.

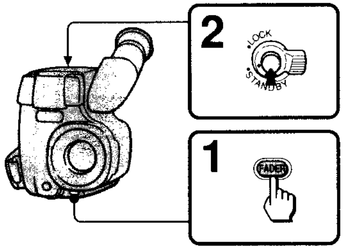
(M-1)



(M-2)



(M-3)



Fade-in and Fade-out

(M-1)
You can fade-in or fade-out to give your recording a professional appearance.
When fading-in, the picture will gradually appear from black. The sound will also gradually increase.
When fading-out, the picture will gradually fade to black. The sound will also gradually decrease.

To Fade-in

(M-2)

1 **Turn STANDBY up to set the camcorder in the standby mode.**

2 **Press FADER.**
The "FADER" indication appears in the viewfinder.

3 **Press START/STOP.**
The recording starts fading in.

To Fade-out

(M-3)

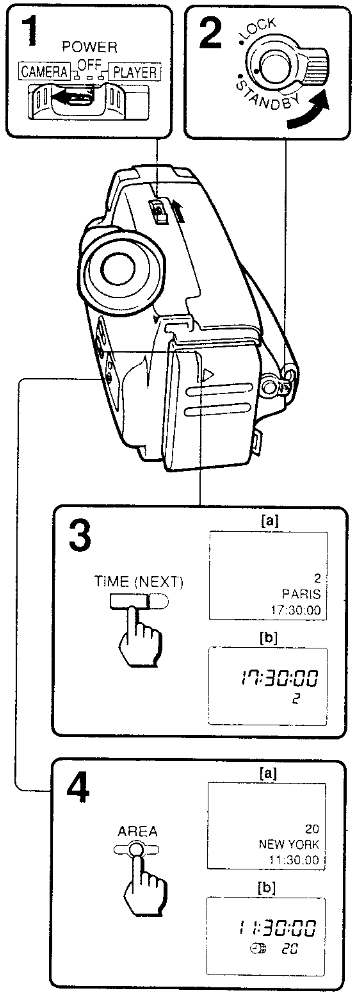
1 **While recording, press FADER.**
The "FADER" indication appears in the viewfinder.

2 **Press START/STOP to stop the recording.**
Fade-out is performed and then recording stops.

To cancel the fade-in/fade-out function before it is performed
Before pressing START/STOP, press FADER again.

If you want to use the fade-in/fade-out function repeatedly
Start from step 1 each time.

(N-1)


1
POWER
CAMERA
OFF
PLAYER
2
LOCK
STANDBY
3
TIME (NEXT)
[a]
2
PARIS
17:30:00
[b]
17:30:00
2
4
AREA
[a]
20
NEW YORK
11:30:00
[b]
11:30:00
20

Using the World Clock

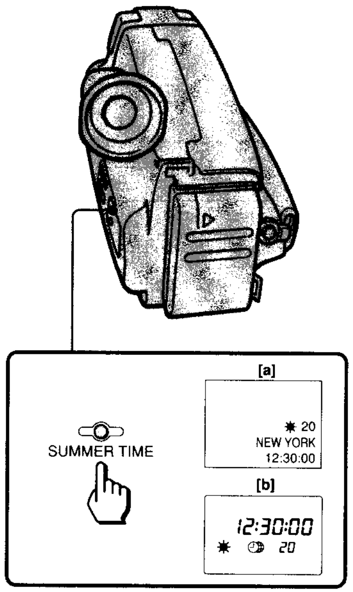
This camcorder has a world clock. While traveling abroad, you can easily adjust time of the place where you are using the camcorder by pressing AREA.
Before pressing AREA, set the date and time in your country (see page 23). **(N-1)**

1. **While pressing the green button, set POWER to CAMERA.**
2. **Turn STANDBY up to set the camcorder in standby mode.**
3. **Press TIME.**
   The time in your country appears inside the viewfinder [a] and in the display window [b].
4. **Press AREA until the area name and number where you are now using the camcorder appear.**
   The time where you are using the camcorder appears inside the viewfinder [a] and in the display window [b]. The 🌐 indication appears in the display window.
   You can find the area name and number in the "Time Zone Chart" on the pages 46 and 47.

To check the date
Press DATE.
To turn off the date indication, press DATE again.

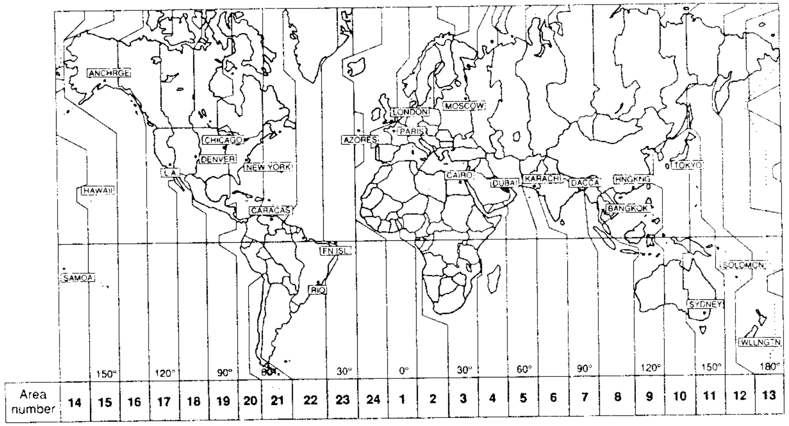
To reset to your country area time
Press AREA until your country area and number appears.

(N-2)


SUMMER TIME
[a]
20
NEW YORK
12:30:00
[b]
12:30:00
20

To set summer time
Press SUMMER TIME. Time changes to summer time. ☀ indication appears inside the viewfinder **[a]** and in the display window **[b]**.
(N-2)
To set to standard time, press SUMMER TIME again.

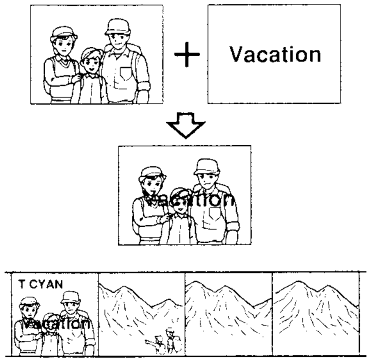
Time Zone Chart


ANCHRGE
CHICAGO
DENVER
L.A.
NEW YORK
HAWAII
CARACAS
SAMOA
FN ISL
RIO
AZORES
LONDON
PARIS
MOSCOW
CAIRO
DUBAI
KARACHI
DACCA
HNGKNG
BANGKOK
TOKYO
SOLOMON
SYDNEY
WLLNGTN
150°
120°
90°
60°
30°
0°
30°
60°
90°
120°
150°
180°
Area number
14
15
16
17
18
19
20
21
22
23
24
1
2
3
4
5
6
7
8
9
10
11
12
13

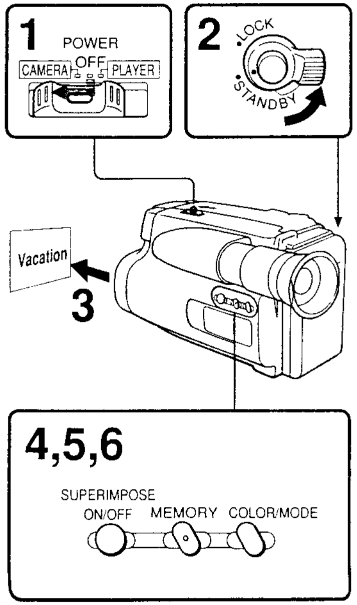
Area number	Area name	Countries or area*
1	LONDON	England, Morocco, Portugal, GMT (Greenwich Mean Time)
2	PARIS	Austria, France, Germany, Italy, Netherlands, Spain, Swedan, Switzerland, CST (Continental Standard Time), Tunisia
3	CAIRO	Egypt, Finland, Greece, Turkey
4	MOSCOW	Ethiopia, Iraq, Kenya, Mauritius, Saudi Arabia, Seychelles, U.S.S.R (Moscow)
5	DUBAI	United Arab Emirates
6	KARACHI	Moldives, Pakistan
7	DACCA	Bangladesh, India, Myanmar
8	BANGKOK	Cambodia, Indonesia (Jakarta), Thailand, Vietnam
9	HNGKNG	Australia (Perth), China, Hong Kong, Indonesia (Borneo, Bali), Malaysia, Philippines, Singapore, Taiwan
10	TOKYO	Japan, Korea
11	SYDNEY	Australia (Sydney)
12	SOLOMON	New Caledonia
13	WLLNGTN	Fiji, New Zealand
14	SAMOA	Western Samoa
15	HAWAII	Hawaii I., Tahiti, HST (Hawaii standard time)
16	ANCHRGE	U.S.A. (Alaska), AST (Alaska standard time)
17	L.A.	U.S.A. (Los Angels, San Francisco), PST (Pacific standard time)
18	DENVER	U.S.A. (Denver), MST (Mountain standard time)
19	CHICAGO	Mexico, U.S.A. (Chicago), CST (Central standard time)
20	NEWYORK	Canada (Montreal), Jamaica, Peru, U.S.A. (New York, Washington D.C.), EST (East standard time)
21	CARACAS	Chile, Dominica, Venezuela
22	RIO	Argentina, Brazil, Uruguay
23	FN ISL.	Fernando de Noronha
24	AZORES	Azores Islands

* These are common names. The formal may be different.

(O-1)


Vacation
T CYAN

(O-2)


1
POWER
CAMERA
OFF
PLAYER
2
LOCK
STANDBY
Vacation
3
4,5,6
SUPERIMPOSE
ON/OFF
MEMORY
COLOR/MODE

Superimposing a Title

You can superimpose your own hand-written message or illustration (title) over the picture while you are recording. **(O-1)**

- You can store one title.
- You can select the colour of the title from 8 colours.

Before recording, store the title.

Storing a Title (O-2)

Before storing

- Make the desired title card.
  Use a plain, white card and draw the title in thick, dark letters.
- Make sure the lithium battery is installed. (page 22)

How to start

1 **While pressing the green button, set POWER to CAMERA.**

2 **Turn STANDBY up to set the camcorder in standby mode.**

3 **Point the camcorder to the title card and adjust the focus.**
To focus the subject, use the close-up function.

4 **Press MEMORY to store the title.**

5 **Press COLOR/MODE and select the title colour.**
Each time you press the button, the indication changes as follows.

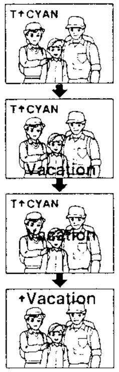
WHT (white) → BLUE → GRN (green) → CYAN
↑ ↓
BLK (black) ← YEL (yellow) ← VIO (violet) ← RED

6 **Press SUPERIMPOSE ON/OFF to turn off the title.**

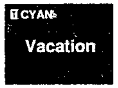
To check the title
Press SUPERIMPOSE ON/OFF in the standby mode.
To turn off the title, press the button again.

About memory back up
The camcorder uses a lithium battery (located on the battery mounting surface to keep the title in memory. The lithium battery life is approximately 1 year.

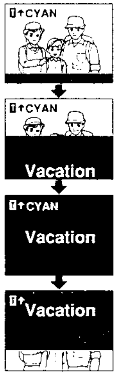
(O-3)


T↑CYAN
T↑CYAN
Vacation
T↑CYAN
Vacation
↑Vacation

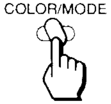
(O-4)


T CYAN
Vacation

(O-5)


T↑CYAN
T↑CYAN
Vacation
T↑CYAN
Vacation
T↑Vacation

(O-6)



Superimposing a Title

Various Display Modes of the Title

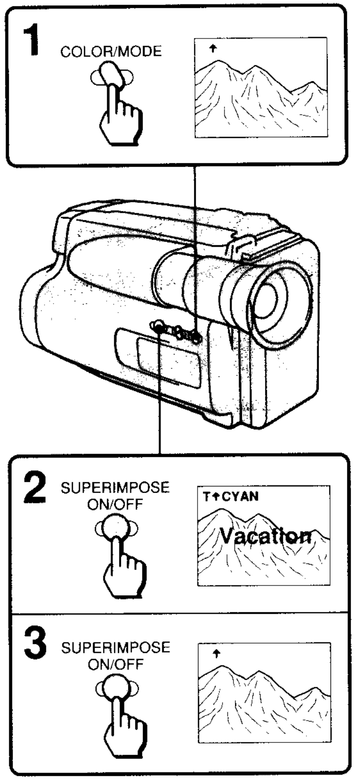
You can scroll your title like in the movies, or reverse the title.
Select the display mode of the title from the following table.

Display mode	Indication in the viewfinder
Scrolling up the title (O-3) The title scrolls up.	↑
Reversing the title with the picture (O-4)	T
Scrolling up the reversed title (O-5)	T↑
Normal display mode	No indication

Selecting the display mode
Before displaying the title, press COLOR/MODE until the indication of the mode you want appears. **(O-6)**

After selecting the mode
Follow the procedure on page 50 to superimpose the title on the picture in that mode.

(O-7)



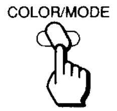
Superimposing a Title on Your Tape

The following shows how to superimpose a title using an example in which the title in cyan scrolls up. **(O-7)**

1. **Press COLOR/MODE to select the display mode of the title in the standby mode.**
2. **Press SUPERIMPOSE ON/OFF at the point from which you want to insert the title, during recording.**
   You can change the title colour by pressing COLOR/MODE. Each time you press the button, the colour indication changes.
3. **Wait for a while and press SUPERIMPOSE ON/OFF again.**
   The title goes out.

About the colour and the display mode indications
The colour and the display mode indicaitons in the viewfinder are not recorded.

(O-8)



Function of the COLOR/MODE Button

This button has a double function: one is to select the title colour and the other is to select the title display mode. Its function depends on whether the title is displayed or not. **(O-8)**

To select the colour

1. Press SUPERIMPOSE ON/OFF to display the title.
2. Press COLOR/MODE.
   Each time you press the button, the colour indication changes as follows.

WHT (white) → BLUE → GRN (green) → CYAN
↑ ↓
BLK (black) ← YEL (yellow) ← VIO (violet) ← RED

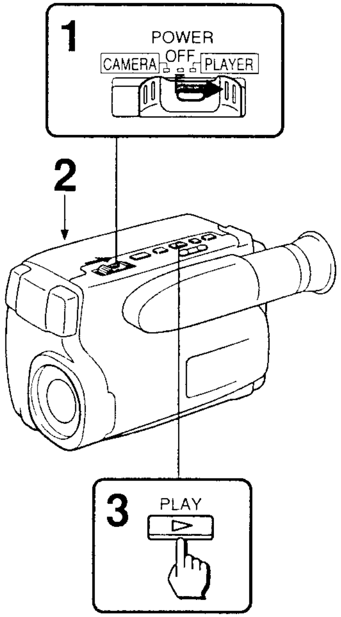
To select the mode

1. If the title is displayed inside the viewfinder, press SUPERIMPOSE ON/OFF so that the title disappears.
2. Press COLOR/MODE.
   Each time you press the button, the mode indication changes as follows:

No indication (Normal display mode) → ↑ → 🆃 → 🆃↑
↑_________________________________|

↑ : Title scrolling up mode
🆃 : Title reversed mode
🆃↑ : Title reversed and scrolling up mode

(Q-1)



Playing Back a Tape

Turn on the TV, and select the channel for viewing a playback picture (set the TV/VIDEO selector to VIDEO).
(Q-1)

1 **While pressing the green button, set the POWER switch to PLAYER.**

2 **Insert a tape.**

3 **Press ▷.**
Playback starts.

To view a still picture, press ❚❚ during playback.
To resume playback, press ❚❚ or ▷ again.

Notes
- When the still picture mode lasts for 5 minutes or more, the camcorder automatically enters the stop mode.
- **This unit has function to play back the tapes recorded in the Hi8 video system (in SP mode only), though the function it has is very basic.** You cannot get such finely detailed pictures as you could get with the video camera recorder with a Hi8 video system. Noise may result when you play back the tapes recorded in the Hi8 video system on this unit.

To rewind the tape, press ◀◀.

To advance the tape rapidly, press ▶▶.

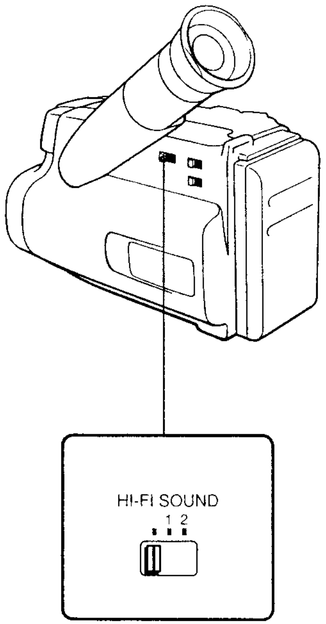
To stop the tape, press □.

To stop the tape momentarily, press ❚❚.

In playback pause mode, you can view the picture in a sequence of stop-motion images by pressing EDITSEARCH. If you keep pressing EDITSEARCH, you can view the picture playback in forward or reverse direction.

Note
Streaks appear and sound is muted in the still picture mode.

(Q-2)



Monitoring a High-Speed Picture

To locate a scene (picture search)
Keep pressing ◀◀ or ▶▶ during playback.
You can monitor the picture at high speed as long as you keep pressing the button.
To resume a normal playback, release the button.

To locate a scene quickly (skip scan)
Keep pressing ◀◀ during rewinding, or ▶▶ while advancing the tape rapidly.
You can monitor the picture at high speed as long as you keep pressing the button.
To resume a normal fast forwarding or rewinding, release the button.
To resume a normal playback, press ▷.

Selecting the Monitor Sound

(Q-2)

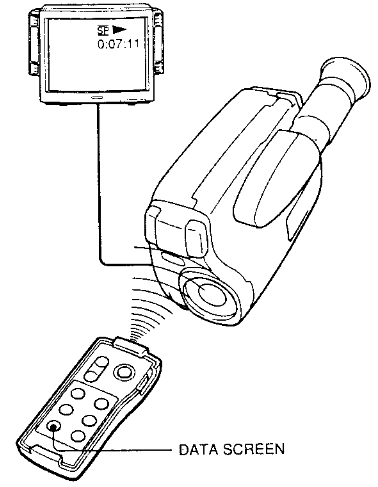
You can select the playback sound with the HI-FI SOUND switch.

When playing back a Hi-Fi stereo sound recorded tape
Set the switch to "green position."

When playing back an AFM monaural sound recorded tape
Set the switch to "green position."
Monaural sound comes from both audio jacks.

When playing back a dual soundtrack tape
Set the switch to " 1 " or " 2 ."

(Q-3)



Displaying the information in the Viewfinder onto the TV Screen

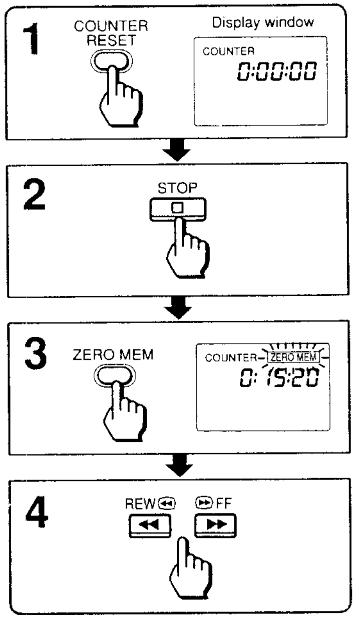
(Q-3)

Connect the camcorder and the TV properly and press the DATA SCREEN button.
The indication in the viewfinder is superimposed on the TV screen. This function is convenient to monitor the indications in the viewfinder when the camcorder is remotely operated by the Commander.

To clear the indication
Press the DATA SCREEN button again.

Note
When using the camcorder as a playback VTR during editing, be sure to clear the indications from the TV screen. Otherwise, the indications will be recorded with the picture.

(R)



Using the Tape Counter

During recording or playback, the digits on the counter indicate the actual recording or playing time.

To Index the Whole Tape

(R)

Press COUNTER RESET at the beginning of the tape so that the counter shows "0:00:00."
Write down the counter reading at a particular point so that you can easily find that point later by referring to the tape counter.

To Return to a Pre-registered Point

1 **During playback, press COUNTER RESET at the point you later want to locate.**
The counter shows "0:00:00."

2 **Press □ when playback has finished, as usual.**

3 **Press ZERO MEM.**
The "ZERO MEM" indication flashes in the display window and inside the viewfinder.

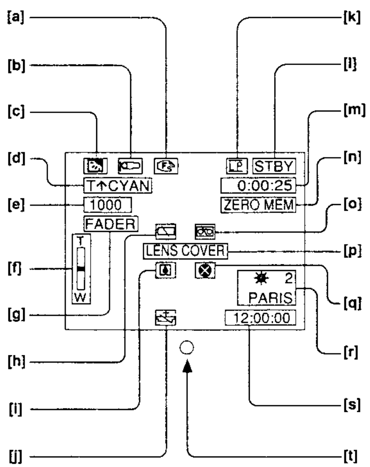
Note
Be sure to press the ZERO MEM after you stop the tape. It does not function during recording or playback.

---

4 **Press ◀◀ or ▶▶.**
The tape rewinds or advances and stops automatically when the counter reaches approximately zero.

Notes on the tape counter and ZERO MEM
- The counter reading and the point on the tape may not correspond exactly. Use the counter as a guide. There will be a time lag of several seconds especially when you repeat fast-forwarding/rewinding and play back a tape recorded in LP and SP modes mixed.
- The ZERO MEM mode is cancelled automatically once the tape is rewound or sent forward to the point you pre-registered.

(V-1)



Indications inside the Viewfinder and in the Display Window

Inside the Viewfinder

(V-1)

[a] Manual focusing

[b] WIND is selected.

[c] BACK LIGHT is pressed.

[d] Title mode

[e] Shutter speed

[f] Power zoom indication

[g] FADER is pressed.

[h] "Replace battery."

[i] "Moisture has condensed."

[j] "Replace lithium battery."

[k] Recording/Playback mode (LP/SP)

[l] Tape transport and camera recording mode

[m]Tape counter

[n] ZERO MEM is pressed.

[o] "Exchange tape or no cassette inside."

[p] The lens cover is closed.

[q] "Clean video heads." or other caution (⊗, ⏏)

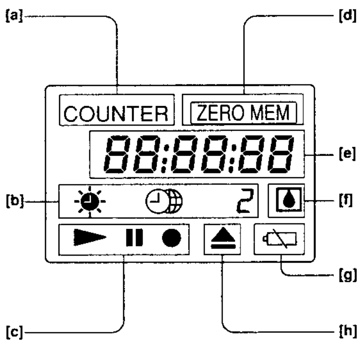
[r] World clock indication

[s] Date or time

[t] Lights up during recording.
When flashing: "Replace battery."

Notes on DEMONSTRATION mode
When you set POWER to CAMERA while pressing □ and ❚❚ simultaneously, "DEMO" indication appears in the viewfinder or on a TV screen if connected and the camcorder automatically demonstrates area names, area numbers, and title modes. You can monitor the sequence inside the viewfinder or on a TV screen if connected.
To turn off the DEMONSTRATION mode, set POWER to OFF or PLAYER.

(V-2)



Display window

(V-2)

[a] Tape counter indication

[b] World clock indication

[c] Tape transport indicaitons
▶ playing back
❚❚ pausing
● recording

[d] ZERO MEM is pressed.

[e] Date, time, or tape counter

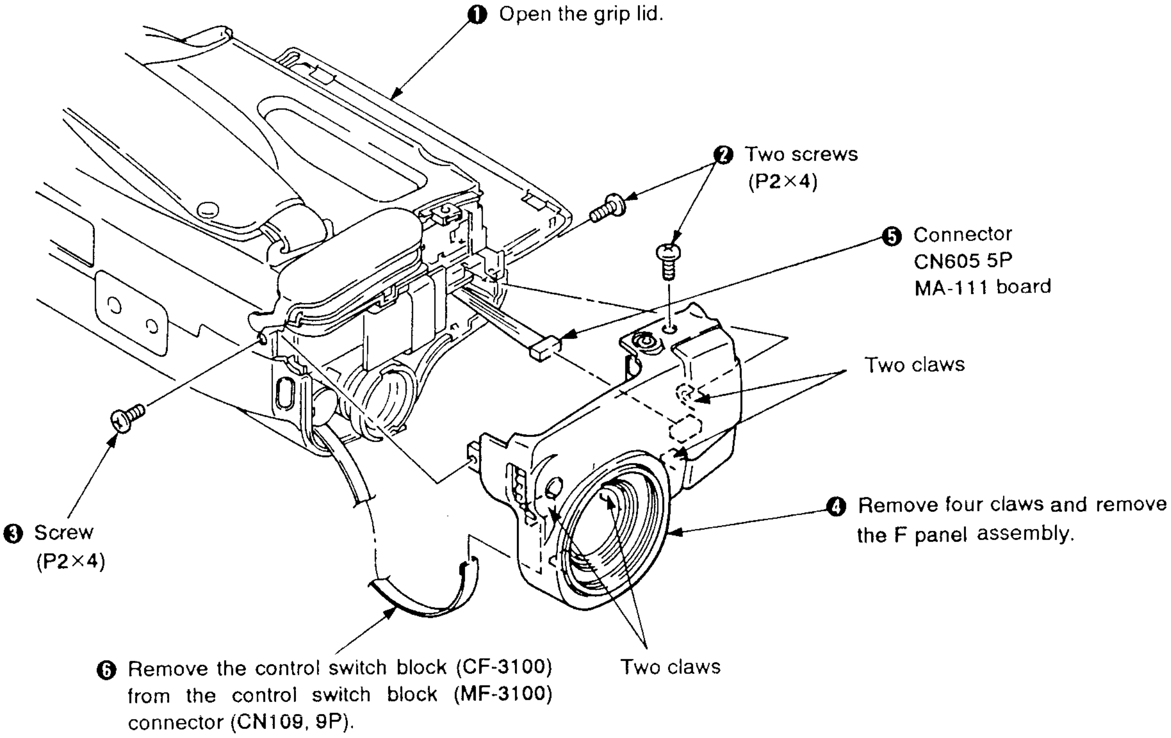
[f] "Moisture has condensed."

[g] "Exchange battery."

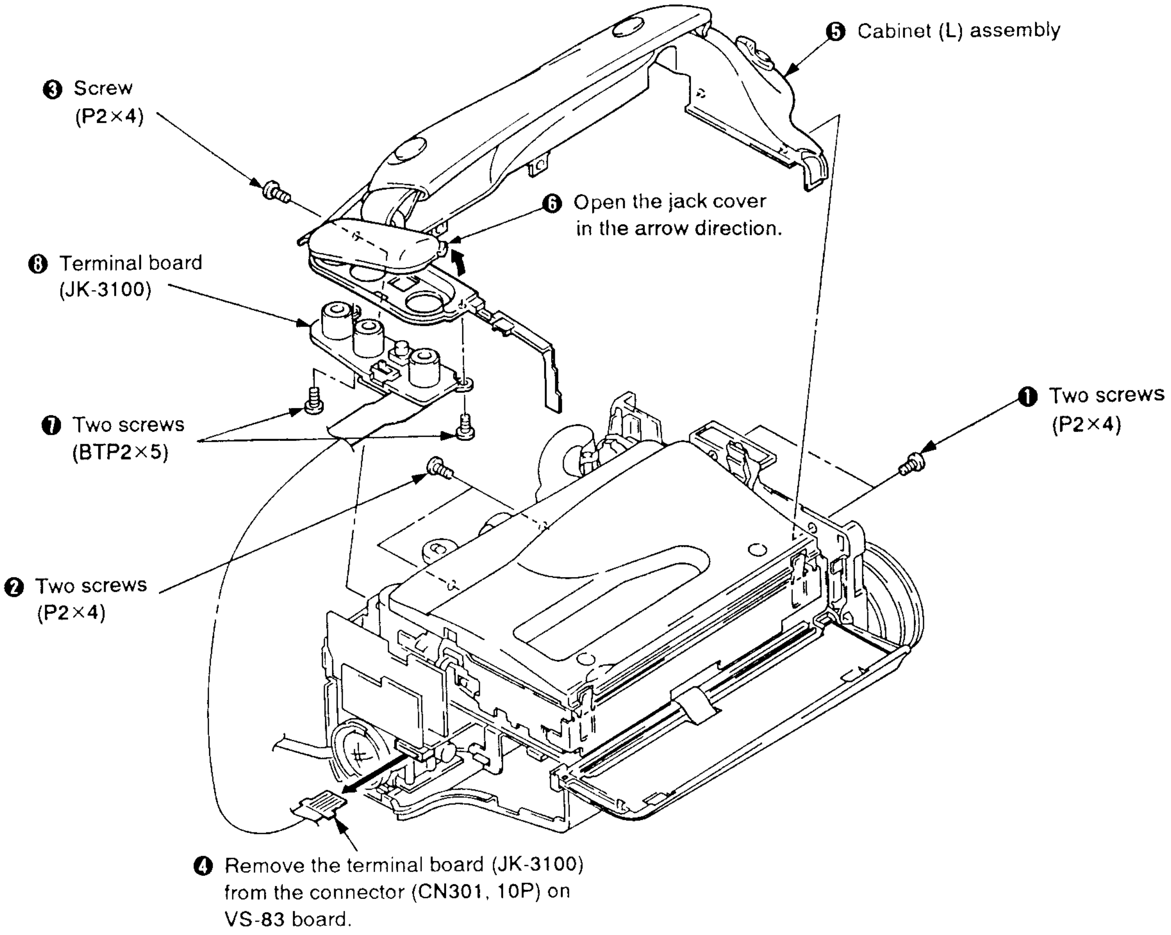
[h] "Trouble has occurred."

SECTION 2
DISASSEMBLY

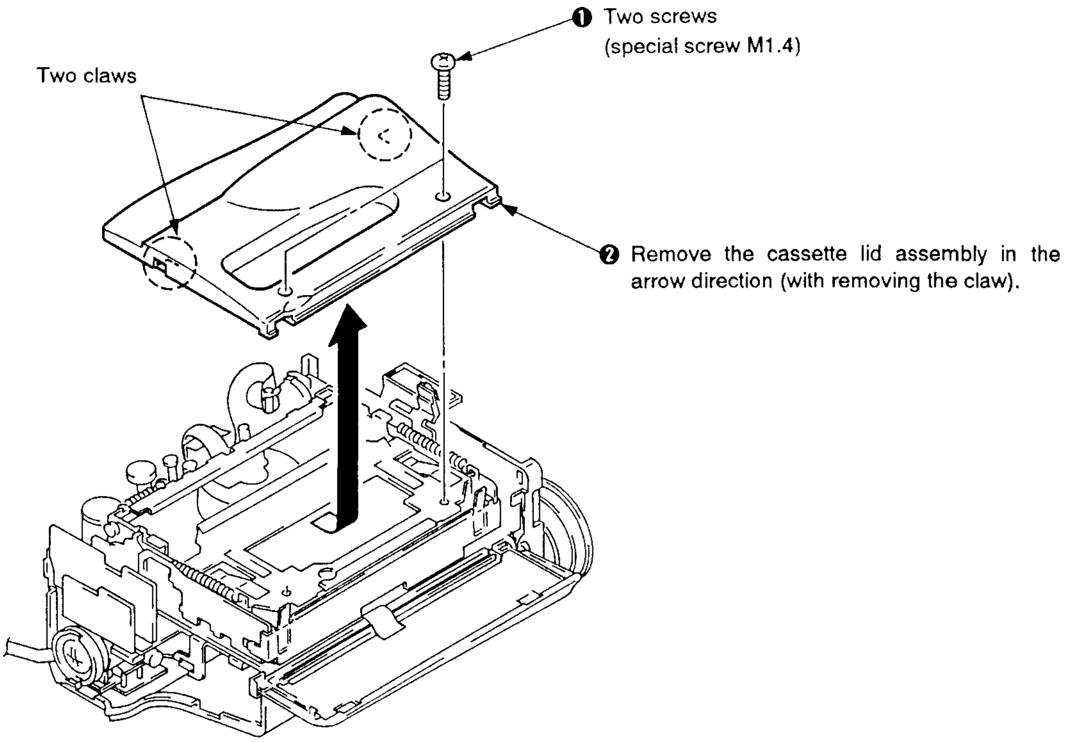
2-1. REMOVAL OF F PANEL ASSEMBLY


❶ Open the grip lid.
❷ Two screws (P2×4)
❺ Connector CN605 5P MA-111 board
Two claws
❹ Remove four claws and remove the F panel assembly.
❸ Screw (P2×4)
❻ Remove the control switch block (CF-3100) from the control switch block (MF-3100) connector (CN109, 9P).
Two claws

2-2. REMOVAL OF CABINET (L) ASSEMBLY AND TERMINAL BOARD (JK-3100)

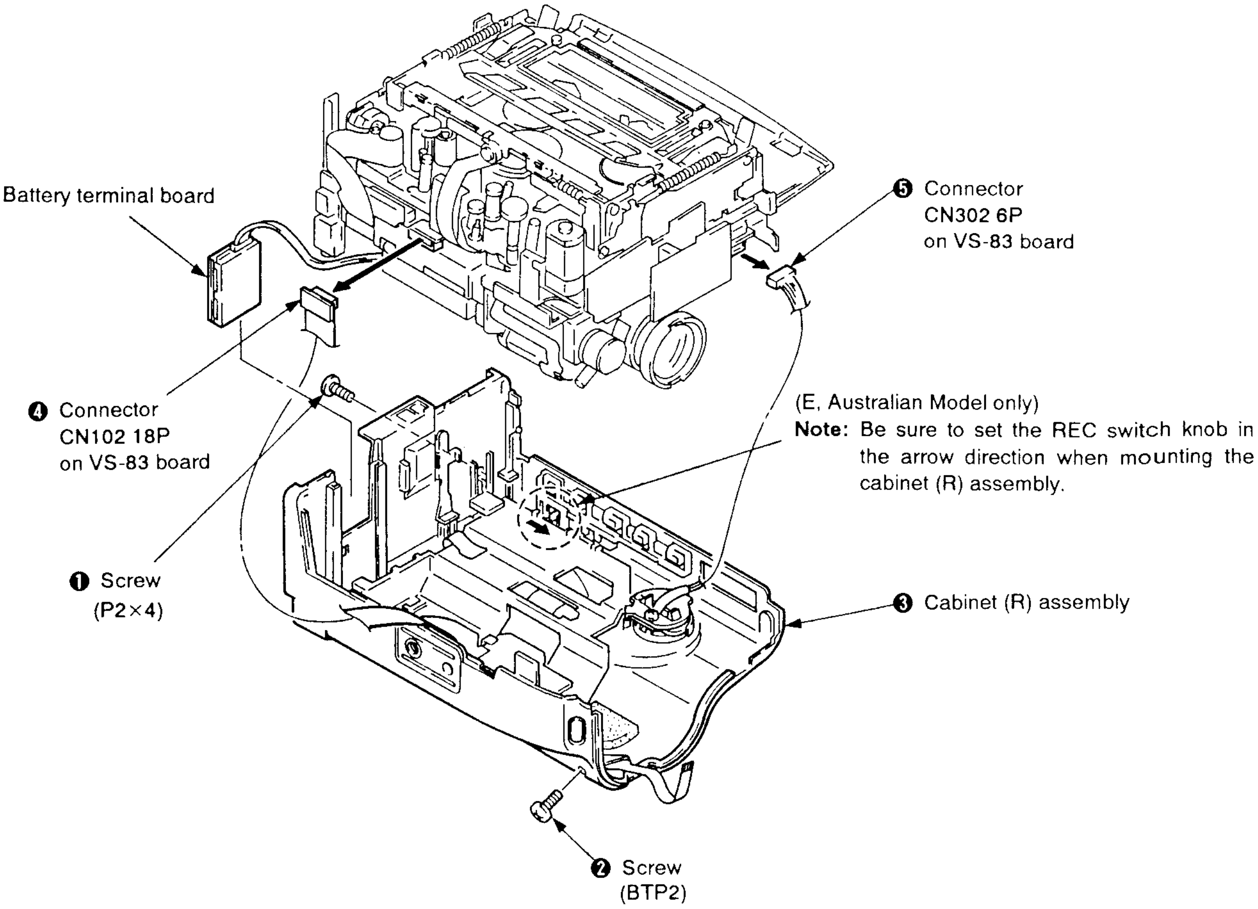

❺ Cabinet (L) assembly
❸ Screw (P2×4)
❻ Open the jack cover in the arrow direction.
❽ Terminal board (JK-3100)
❶ Two screws (P2×4)
❼ Two screws (BTP2×5)
❷ Two screws (P2×4)
❹ Remove the terminal board (JK-3100) from the connector (CN301, 10P) on VS-83 board.

2-3. REMOVAL OF CASSETTE LID ASSEMBLY



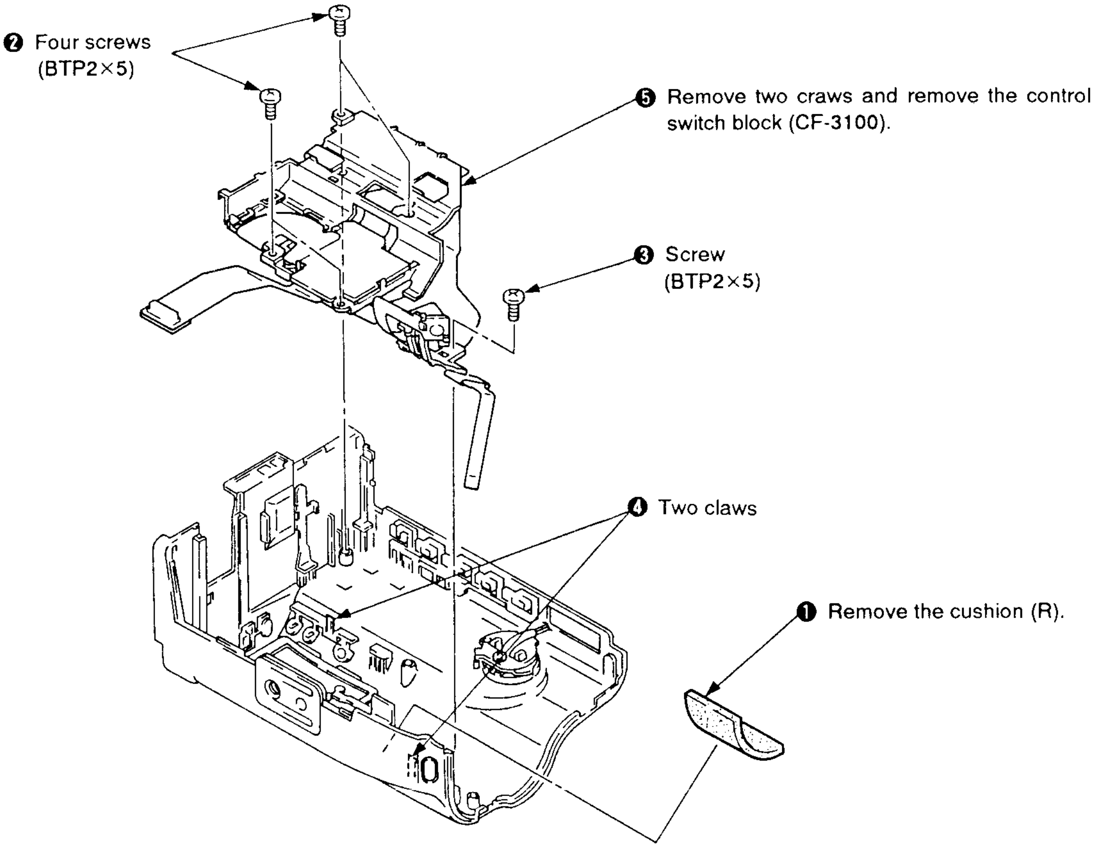
➊ Two screws
(special screw M1.4)
Two claws
➋ Remove the cassette lid assembly in the arrow direction (with removing the claw).

2-4. REMOVAL OF CABINET (R) ASSEMBLY

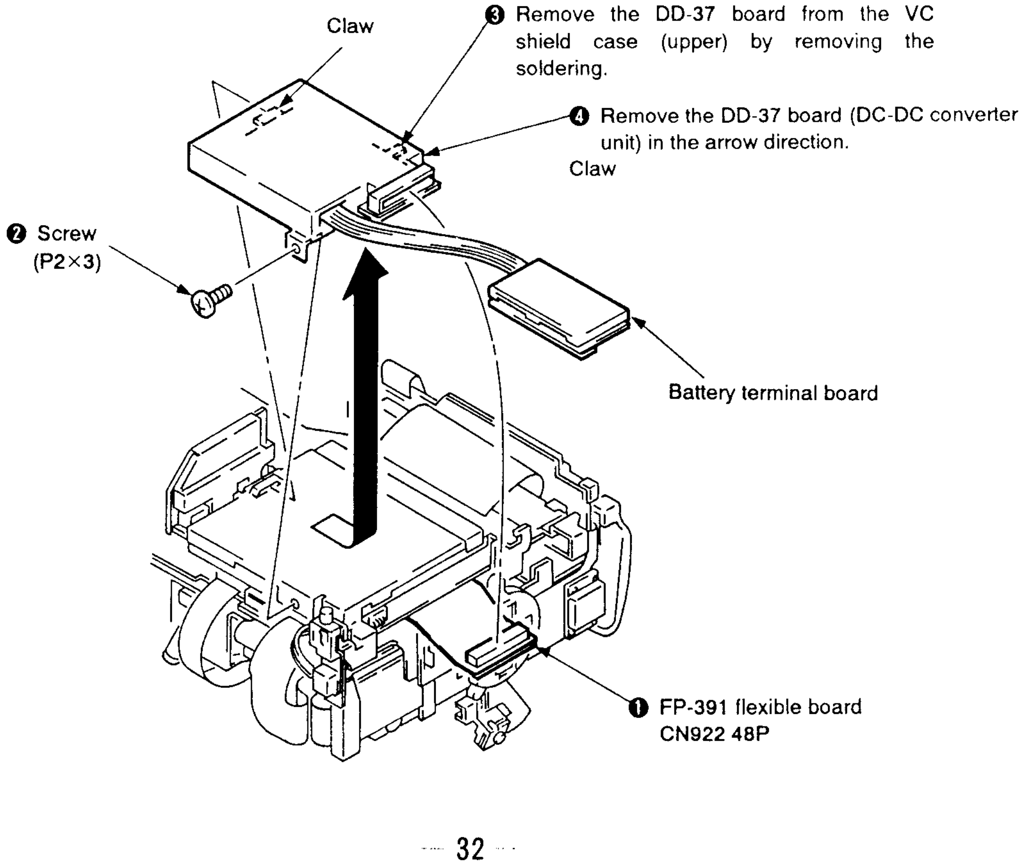


Battery terminal board
➎ Connector
CN302 6P
on VS-83 board
➍ Connector
CN102 18P
on VS-83 board
(E, Australian Model only)
Note: Be sure to set the REC switch knob in the arrow direction when mounting the cabinet (R) assembly.
➊ Screw
(P2×4)
➌ Cabinet (R) assembly
➋ Screw
(BTP2)

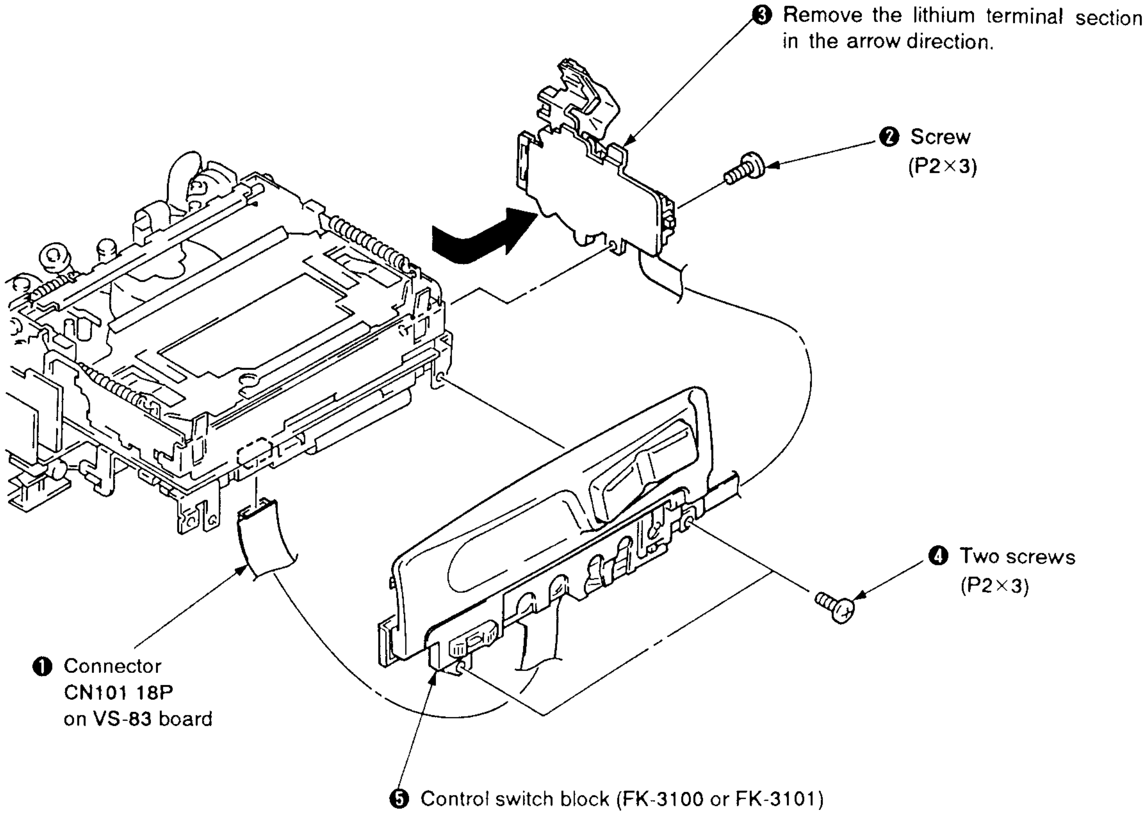
2-5. REMOVAL OF CONTROL SWITCH BLOCK (CF-3100)


❷ Four screws (BTP2×5)
❺ Remove two craws and remove the control switch block (CF-3100).
❸ Screw (BTP2×5)
❹ Two claws
❶ Remove the cushion (R).

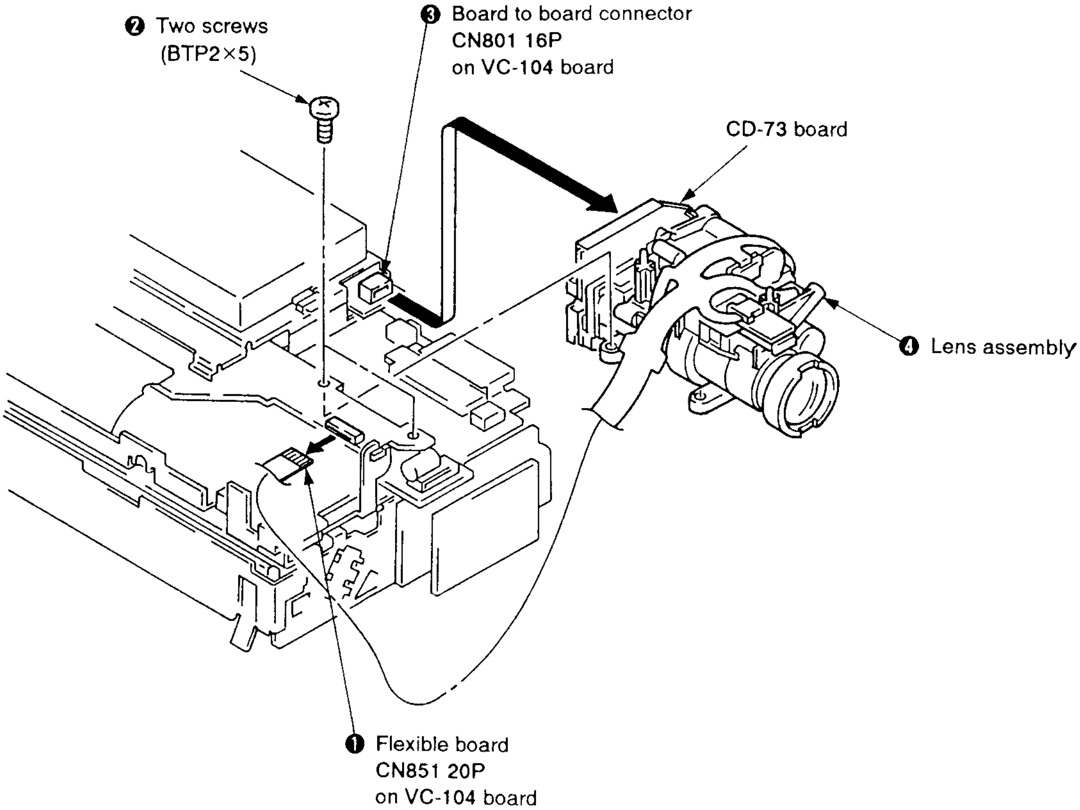
2-6. REMOVAL OF DD-37 BOARD (DC-DC CONVERTER UNIT)


Claw
❸ Remove the DD-37 board from the VC shield case (upper) by removing the soldering.
❹ Remove the DD-37 board (DC-DC converter unit) in the arrow direction.
Claw
❷ Screw (P2×3)
Battery terminal board
❶ FP-391 flexible board CN922 48P

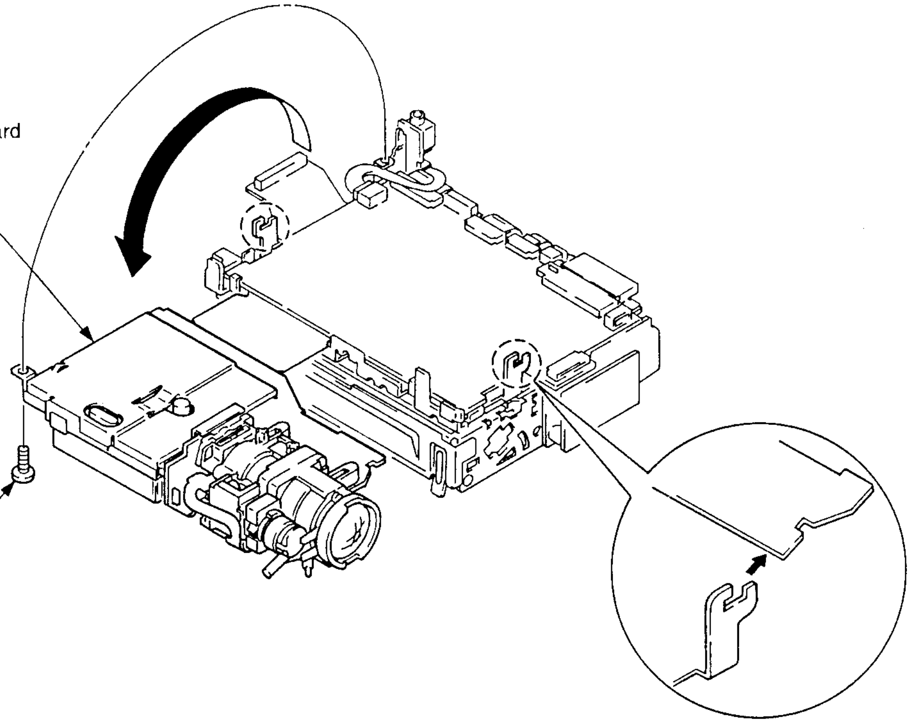
2-7. REMOVAL OF CONTROL SWITCH BLOCK (FK-3100 OR FK-3101)


❸ Remove the lithium terminal section in the arrow direction.
❷ Screw (P2×3)
❹ Two screws (P2×3)
❶ Connector CN101 18P on VS-83 board
❺ Control switch block (FK-3100 or FK-3101)

2-8. REMOVAL OF LENS ASSEMBLY (CD-73 BOARD)


❷ Two screws (BTP2×5)
❸ Board to board connector CN801 16P on VC-104 board
CD-73 board
❹ Lens assembly
❶ Flexible board CN851 20P on VC-104 board

2-9. OPENING OF VC-104 BOARD

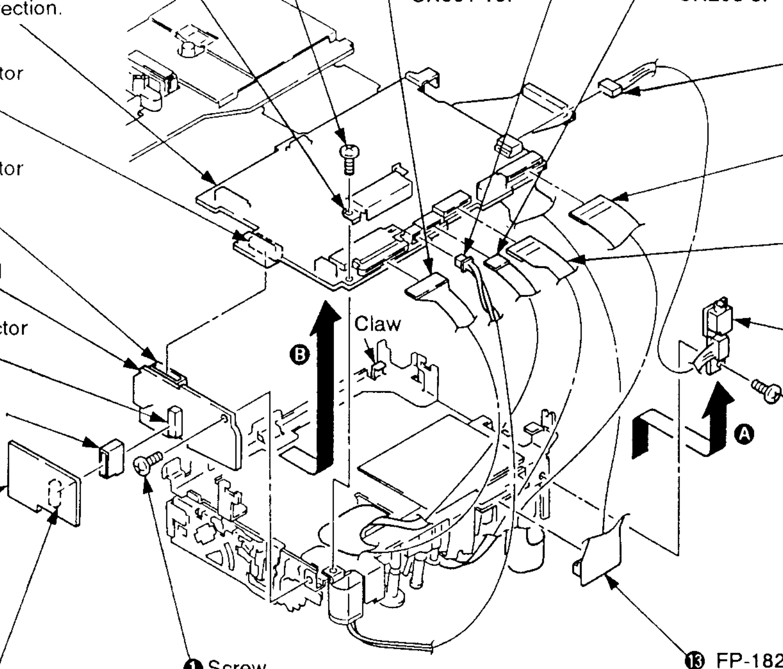


❸ Open the VC-104 board in the arrow direction.

❶ Screw (P2×3)

❷ Remove the VC-104 board by removing two claws of frame (Upper).

2-10. REMOVAL OF VS-83 BOARD



⓮ Screw (P2×3)

⓫ Connector CN207 2P

⓯ RP connector shield plate

⓬ Connector CN001 15P

❿ Connector CN206 6P

⓰ Remove the VS-83 board in the arrow Ⓑ direction.

Board to board connector CN303 30P

❼ Connector CN208 3P

❽ Connector CN204 14P

Board to board connector CN603 30P

❾ Connector CN205 9P

❷ AU-119 board

Board to board connector CN602 22P

❻ Remove the LJ-4 board in the arrow Ⓐ direction.

❹ Relay connector

❺ Screw (P2×3)

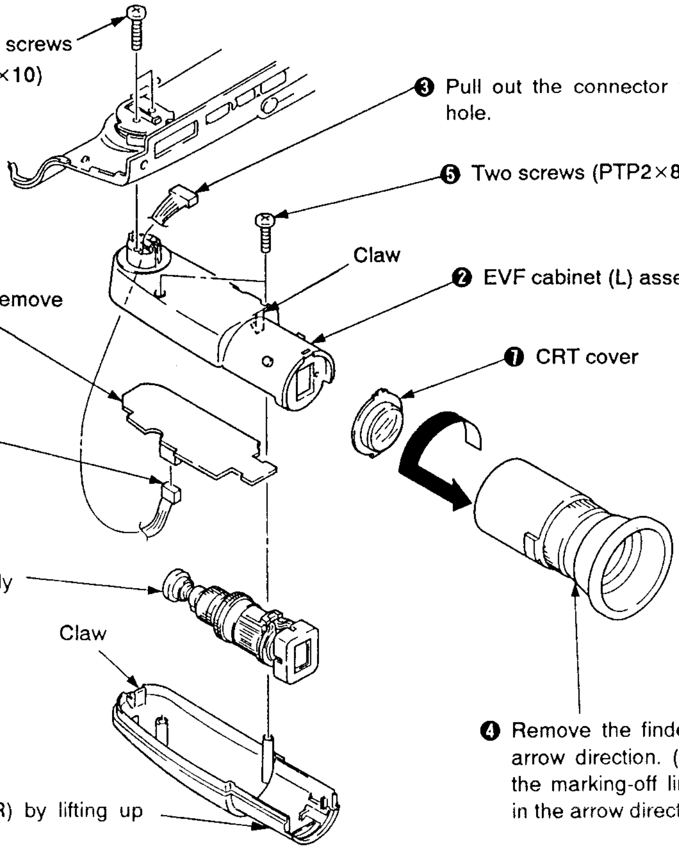
❸ AU-120 board

⓭ FP-182 flexible board 18P M902 capstan motor

❶ Screw (P2×3)

Board to board connector CN604 22P

2-11. REMOVAL OF EVF ASSEMBLY (VF-42 BOARD)


❶ Two screws (P2×10)

❸ Pull out the connector through the square hole.

❺ Two screws (PTP2×8)

❷ EVF cabinet (L) assembly

❼ CRT cover

❾ Remove a claw and remove the VF-42 board

⑩ Connector CN501 4P

❽ CRT assembly

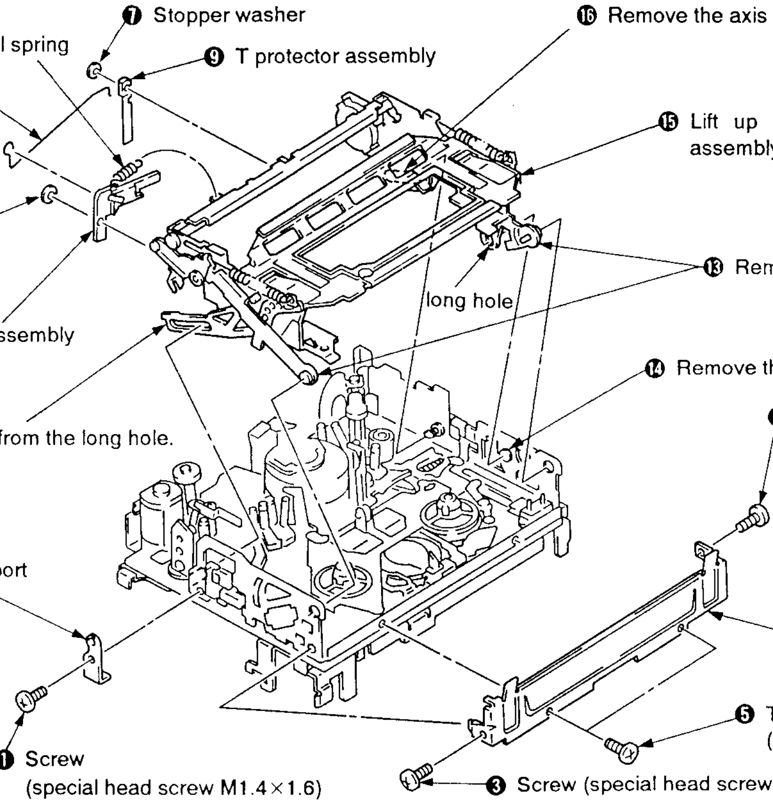
❹ Remove the finder holder assembly in the arrow direction. (Pull out to the position of the marking-off line and remove by turning in the arrow direction.)

❻ Remove the EVF cabinet (R) by lifting up with the claw as its fulcrum.

2-12. REMOVAL OF CASSETTE COMPARTMENT HOLDER ASSEMBLY

In the beginning, set to USE mode.

(When setting to USE mode, see "2-4. Handling of Mode Selector" in "8 mm video mechanical adjustment manual II FL Mechanism (Q mechanism)".)


❼ Stopper washer

⑪ Tension coil spring

❾ T protector assembly

❽ Joint bar

⑯ Remove the axis from the long hole.

⑮ Lift up the cassette compartment holder assembly to the drum side.

⑩ Washer

⑬ Remove the two axes from the holes.

⑫ TP arm assembly

⑭ Remove the axis from the long hole.

⑦ Remove the axis from the long hole.

❹ Screw (special head screw M1.4×1.6)

❷ LS support

❻ LS frame (L)

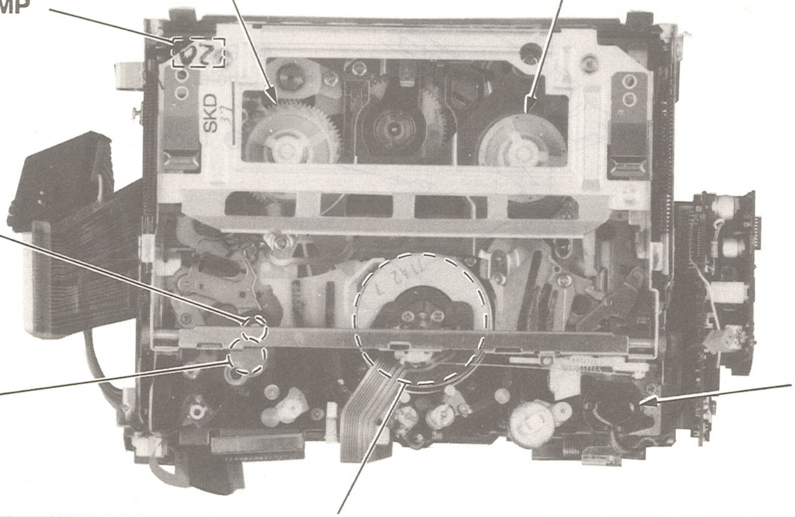
❺ Two screws (special head screw M1.4×1.6)

❶ Screw (special head screw M1.4×1.6)

❸ Screw (special head screw M1.4×1.6)

2-13. INTERNAL VIEWS

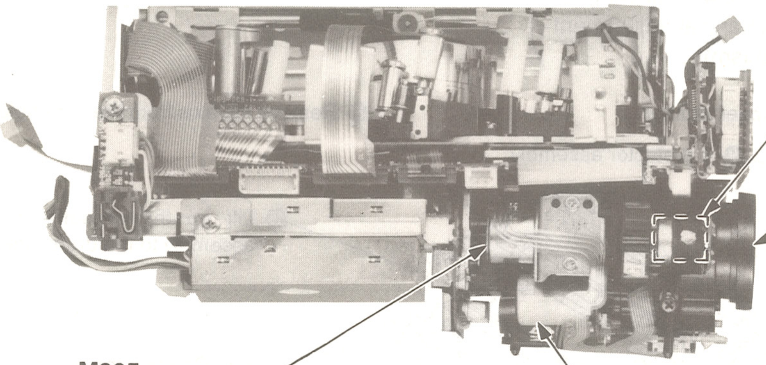
– Left side –


S992
REC PROOF, ME/MP
Push switch
1-571-647-11
T reel table assembly
X-3727-951-2
S reel table assembly
X-3727-952-1
Pinch roller
M902
Capstan motor (U-21A)
8-835-329-12
M903
Loading motor
(LA12G-344VA)
1-541-607-21

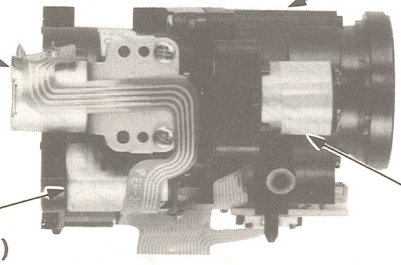
M901

Drum assembly	A-7048-214-A (DGH-37A-R) (E, Australian)
	A-7048-534-A (DGH-80A-R) (AEP, UK)
Rotary upper drum assembly	A-7049-197-A (DGR-37-R-(1)) (Color mark: Green, Green/Red, Black, Black/Red) (E, Australian)
	A-7049-461-A (DGR-80-R-(1)) (Color mark: Green, Green/Red, Black, Black/Red) (AEP, UK)
	A-7049-198-A (DGR-37-R-(2)) (Color mark; Red, Red/Red, Blue, Blue/Blue) (E, Australian)
	A-7049-464-A (DGR-80-R-(2)) (Color mark; Red, Red/Red, Blue, Blue/Blue) (AEP, UK)

– Lower side –

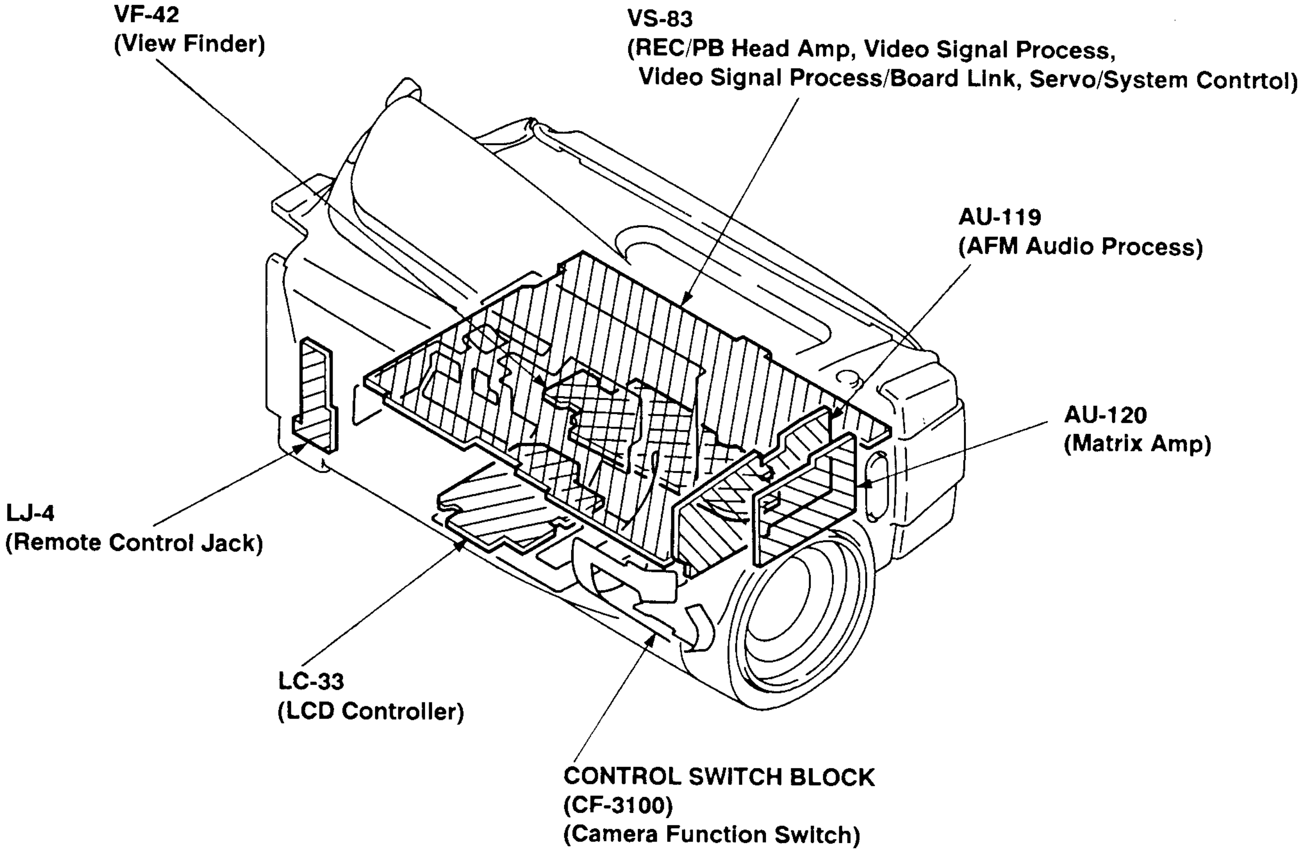

M904
IG meter assembly (IRIS)
3-708-323-01
Zoom lens (type CAN)
(VCL-606WA)
1-547-483-11
M905
AF motor assembly (FOCUS)
3-708-321-01
M906
PZ motor assembly (ZOOM)
3-708-320-01

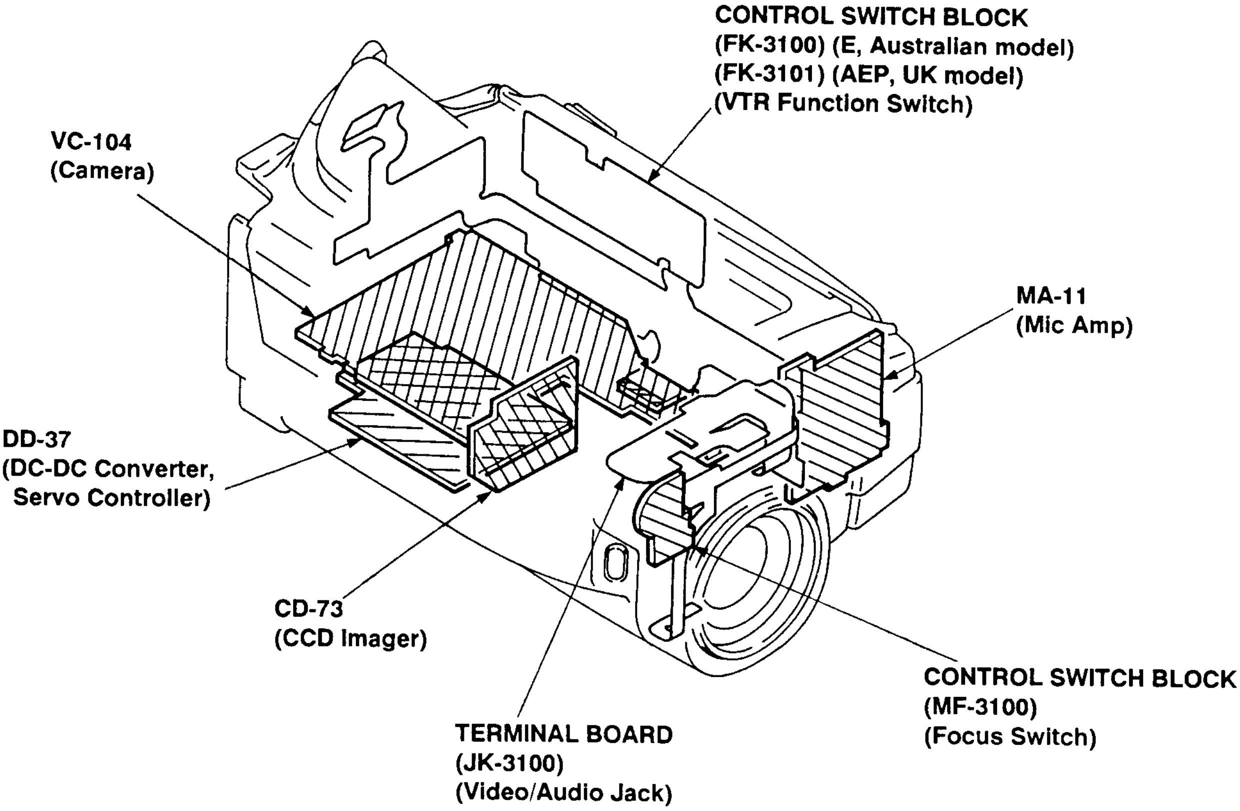
– Zoom lens –
(Type TAM)


Zoom lens (type TAM)
(VCL-606WB)
1-547-484-11
M905
AF motor assembly (FOCUS)
3-708-330-01
M906
PZ motor assembly (ZOOM)
3-708-328-01
M904
EE meter assembly (IRIS)
3-708-327-01

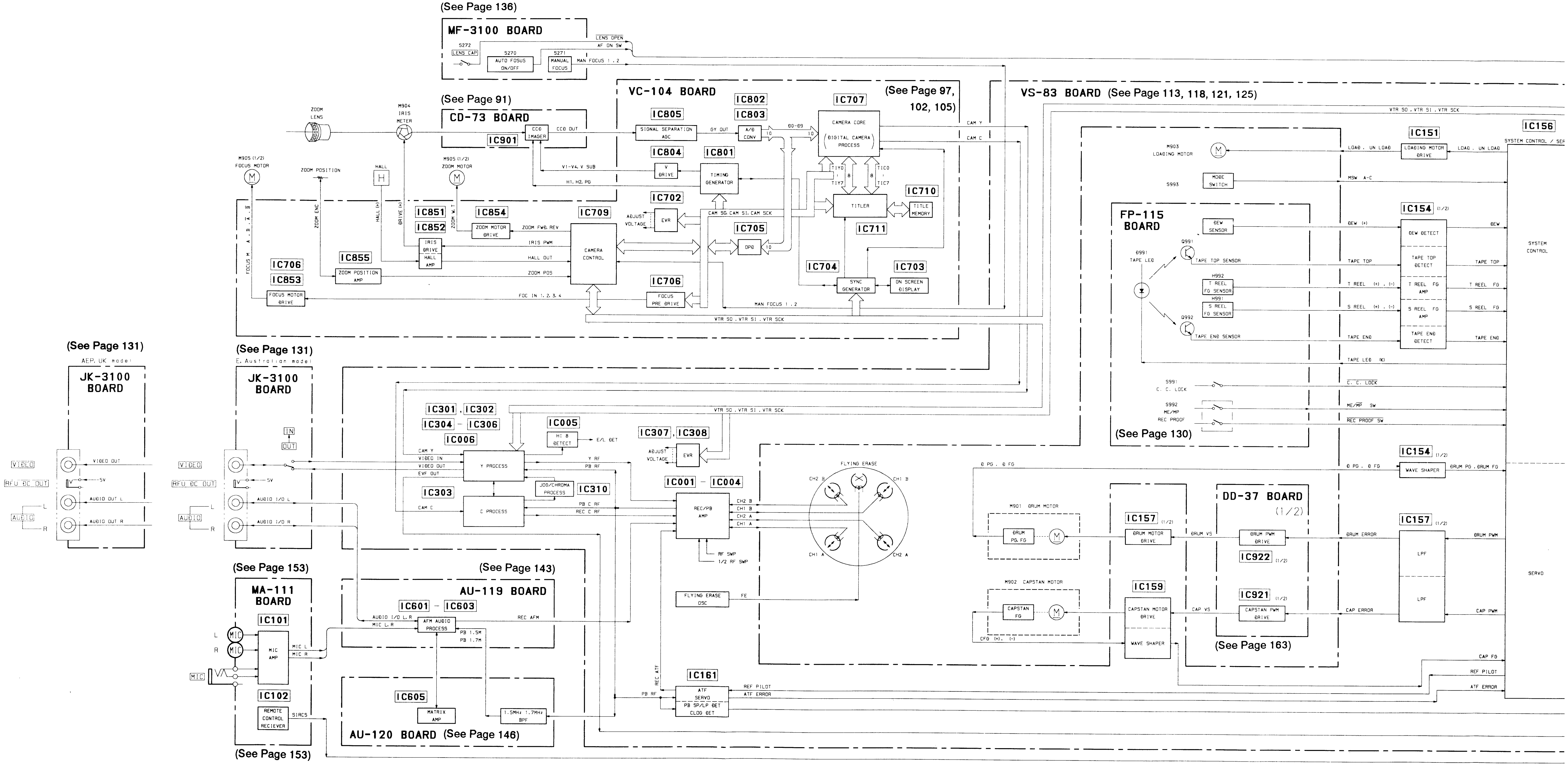
SECTION 3
DIAGRAMS

3-1. CIRCUIT BOARDS LOCATION

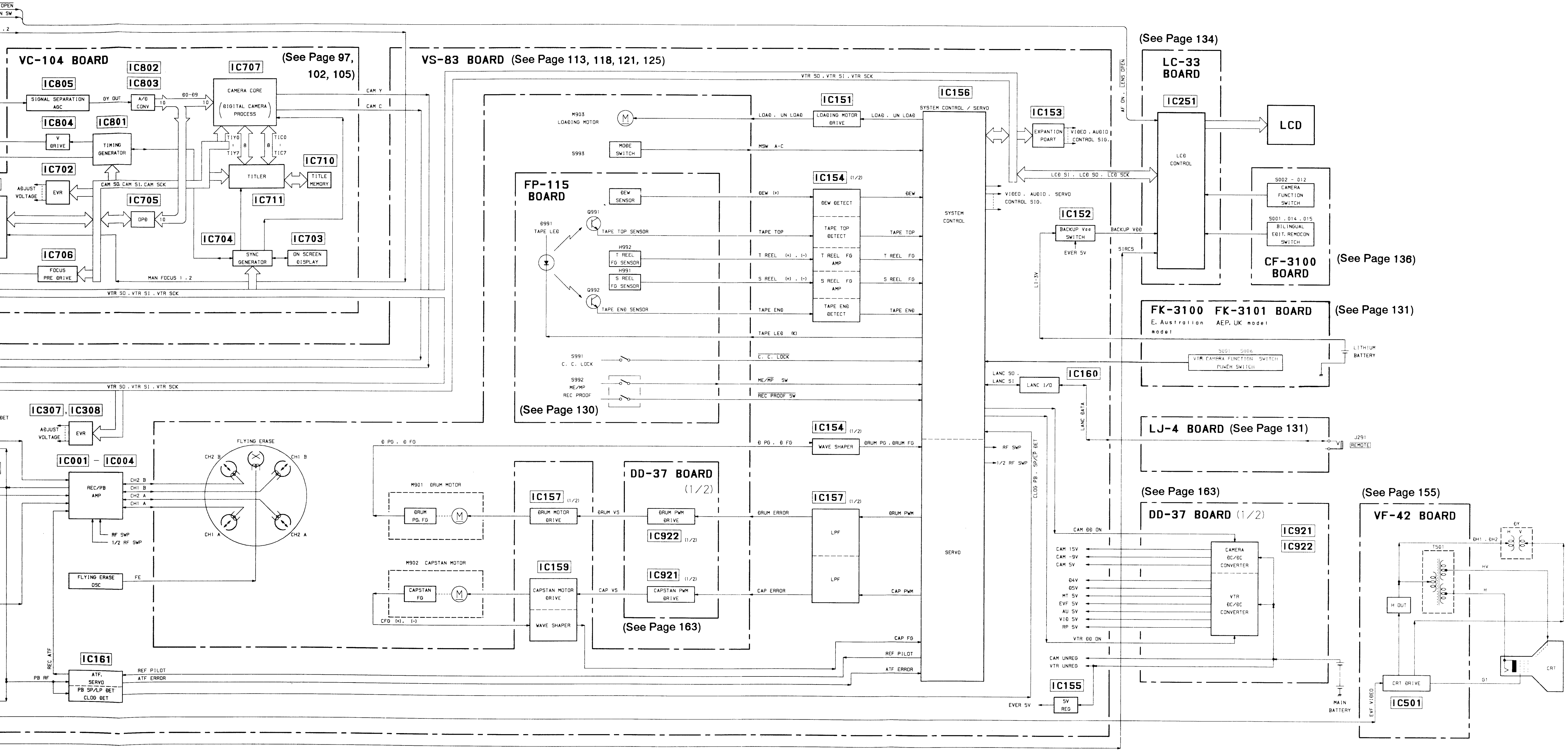

VF-42
(View Finder)
VS-83
(REC/PB Head Amp, Video Signal Process,
Video Signal Process/Board Link, Servo/System Contrtol)
AU-119
(AFM Audio Process)
AU-120
(Matrix Amp)
LJ-4
(Remote Control Jack)
LC-33
(LCD Controller)
CONTROL SWITCH BLOCK
(CF-3100)
(Camera Function Switch)


CONTROL SWITCH BLOCK
(FK-3100) (E, Australian model)
(FK-3101) (AEP, UK model)
(VTR Function Switch)
VC-104
(Camera)
MA-11
(Mic Amp)
DD-37
(DC-DC Converter,
Servo Controller)
CD-73
(CCD Imager)
CONTROL SWITCH BLOCK
(MF-3100)
(Focus Switch)
TERMINAL BOARD
(JK-3100)
(Video/Audio Jack)

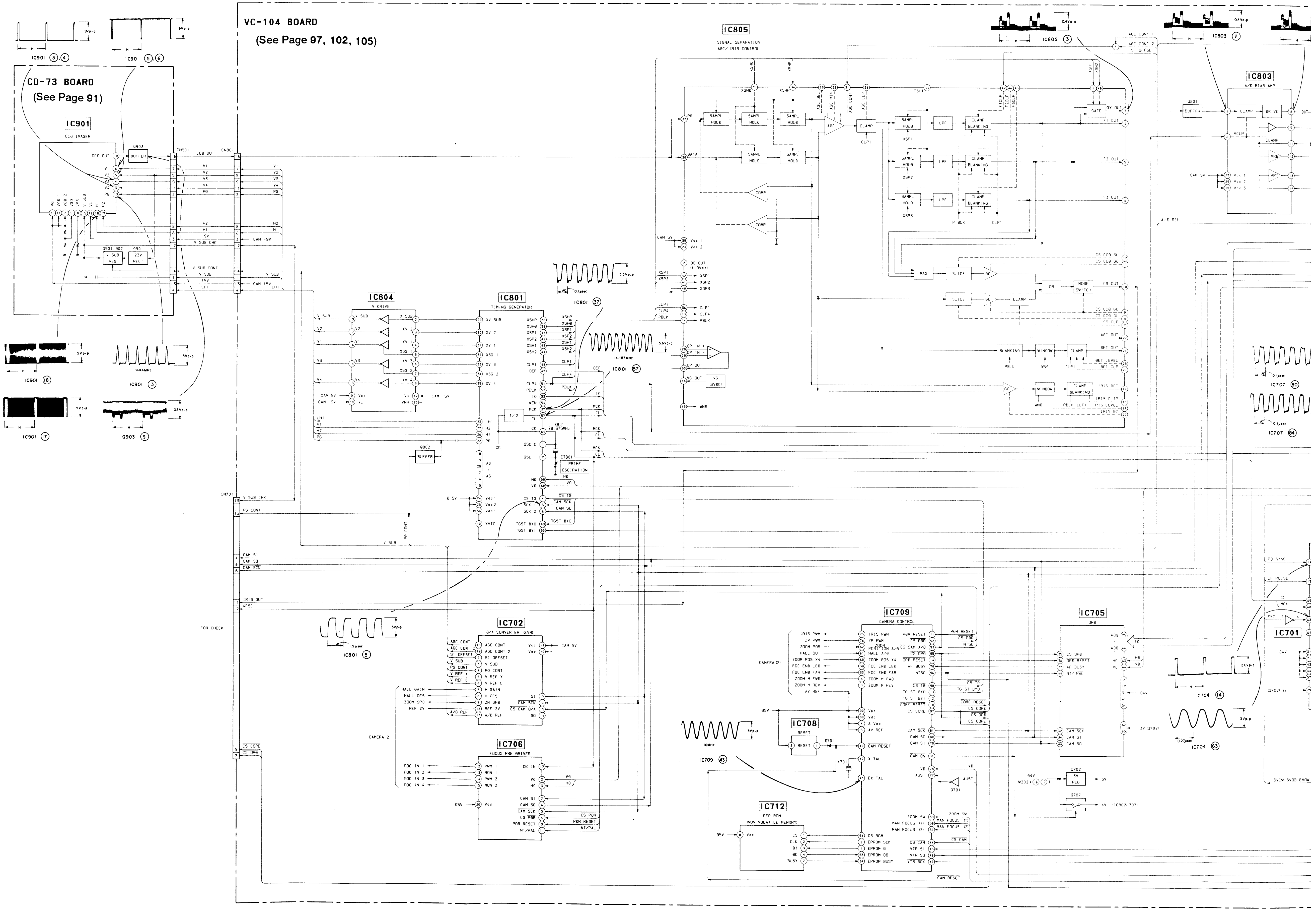
3-2. OVERALL BLOCK DIAGRAM

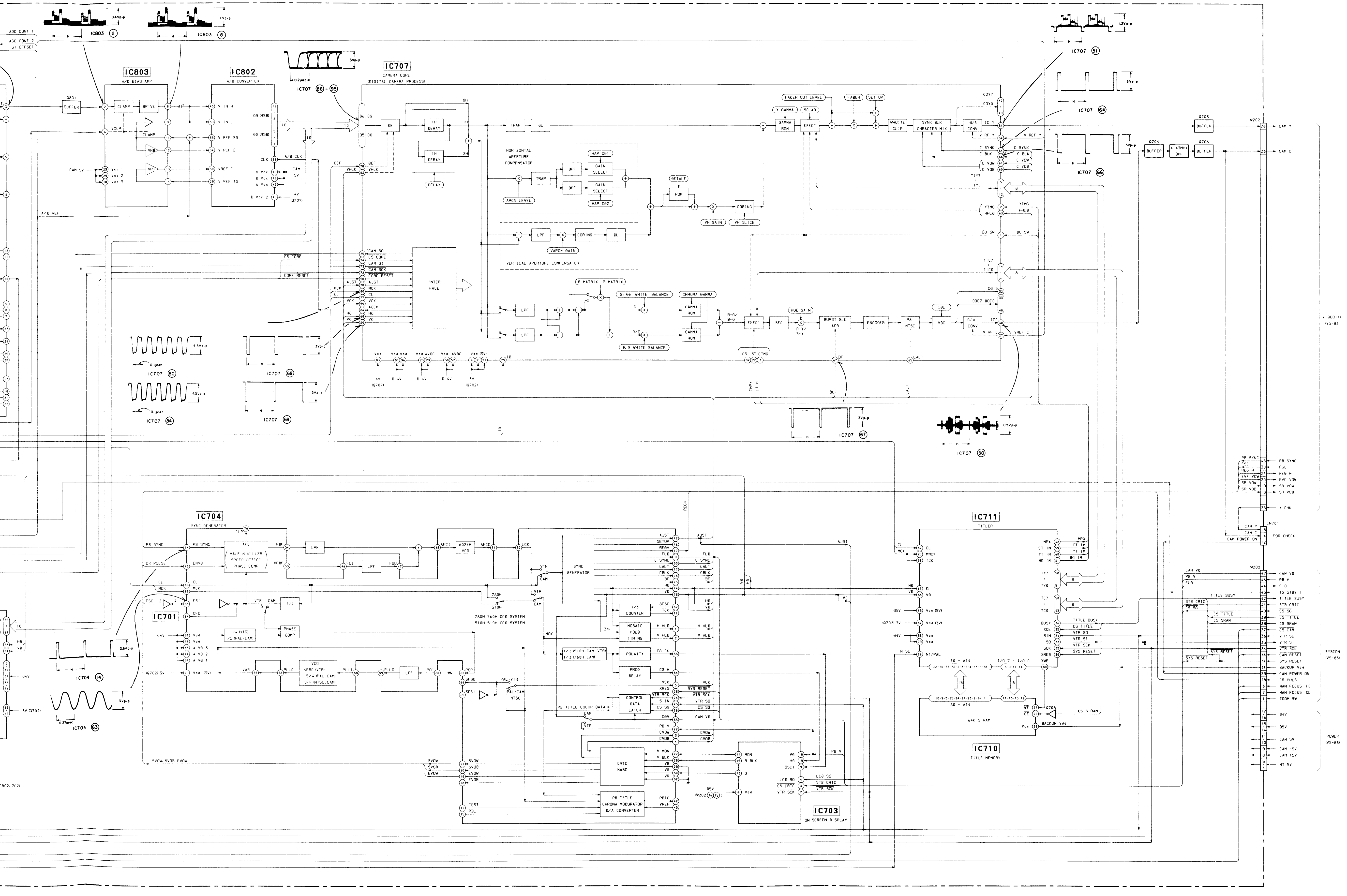


(See Page 136)
MF-3100 BOARD
S272
LENS CAP
S270
AUTO FOCUS ON/OFF
S271
MANUAL FOCUS
LENS OPEN
AF ON SW
MAN FOCUS 1, 2
(See Page 91)
CD-73 BOARD
IC901
CCD IMAGER
CCD OUT
ZOOM LENS
M904 IRIS METER
M905 (1/2) FOCUS MOTOR
ZOOM POSITION
HALL
M905 (1/2) ZOOM MOTOR
VC-104 BOARD
(See Page 97, 102, 105)
IC805
SIGNAL SEPARATION AGC
DY OUT
IC802
IC803
A/D CONV
D0-D9
IC707
CAMERA CORE (DIGITAL CAMERA PROCESS)
CAM Y
CAM C
IC804
V DRIVE
IC801
TIMING GENERATOR
V1-V4, V SUB
H1, H2, PG
TIY0-TIY7
TIC0-TIC7
IC710
TITLER
TITLE MEMORY
IC711
IC702
ADJUST VOLTAGE
EVR
CAM SO, CAM SI, CAM SCK
IC705
DPO
IC704
SYNC GENERATOR
IC703
ON SCREEN DISPLAY
IC851
IC852
IC854
ZOOM MOTOR DRIVE
ZOOM FWD, REV
IC709
CAMERA CONTROL
IRIS DRIVE
HALL AMP
IRIS PWM
HALL OUT
ZOOM POS
IC855
ZOOM POSITION AMP
IC706
IC853
FOCUS MOTOR DRIVE
FOC IN 1, 2, 3, 4
IC706
FOCUS PRE DRIVE
MAN FOCUS 1, 2
VTR SO, VTR SI, VTR SCK
FOCUS M A, B, A, B
ZOOM ENC
HALL (+)
DRIVE (+)
ZOOM W, T
VS-83 BOARD (See Page 113, 118, 121, 125)
IC151
LOADING MOTOR DRIVE
M903 LOADING MOTOR
LOAD, UN LOAD
IC156
SYSTEM CONTROL / SER
S993
MODE SWITCH
MSW A-C
FP-115 BOARD
DEW SENSOR
Q991
D991 TAPE LED
TAPE TOP SENSOR
H992 T REEL FG SENSOR
H991 S REEL FG SENSOR
Q992
TAPE END SENSOR
IC154 (1/2)
DEW DETECT
TAPE TOP DETECT
T REEL FG AMP
S REEL FG AMP
TAPE END DETECT
DEW (+)
DEW
TAPE TOP
T REEL (+), (-)
T REEL FG
S REEL (+), (-)
S REEL FG
TAPE END
TAPE LED ON
SYSTEM CONTROL
S991 C. C. LOCK
S992 ME/MP REC PROOF
C. C. LOCK
ME/MP SW
REC PROOF SW
(See Page 130)
(See Page 131)
AEP, UK model
JK-3100 BOARD
VIDEO
RFU DC OUT
AUDIO
VIDEO OUT
5V
AUDIO OUT L
AUDIO OUT R
L
R
(See Page 131)
E, Australian model
JK-3100 BOARD
IN
OUT
AUDIO I/O L
AUDIO I/O R
IC301, IC302
IC304 - IC306
IC006
IC005
HI 8 DETECT
E/L DET
CAM Y
VIDEO IN
VIDEO OUT
EVF OUT
Y PROCESS
Y RF
PB RF
IC303
C PROCESS
CAM C
JOG/CHROMA PROCESS
IC310
PB C RF
REC C RF
IC307, IC308
ADJUST VOLTAGE
EVR
IC001 - IC004
REC/PB AMP
CH2 B
CH1 B
CH2 A
CH1 A
RF SWP
1/2 RF SWP
FLYING ERASE
FLYING ERASE OSC
FE
IC161
ATF SERVO PB SP/LP DET CLOG DET
REC ATF
PB RF
REF PILOT
ATF ERROR
Θ PG, Θ FG
IC154 (1/2)
WAVE SHAPER
DRUM PG, DRUM FG
M901 DRUM MOTOR
DRUM PG, FG
IC157 (1/2)
DRUM MOTOR DRIVE
DRUM VS
DD-37 BOARD (1/2)
DRUM PWM DRIVE
IC922 (1/2)
IC157 (1/2)
LPF
DRUM ERROR
DRUM PWM
SERVO
M902 CAPSTAN MOTOR
CAPSTAN FG
CFG (+), (-)
IC159
CAPSTAN MOTOR DRIVE
WAVE SHAPER
CAP VS
IC921 (1/2)
CAPSTAN PWM DRIVE
(See Page 163)
CAP ERROR
CAP PWM
CAP FG
REF PILOT
ATF ERROR
(See Page 153)
MA-111 BOARD
IC101
MIC AMP
MIC
MIC L
MIC R
IC102
REMOTE CONTROL RECIEVER
SIRCS
(See Page 153)
(See Page 143)
AU-119 BOARD
IC601 - IC603
AUDIO I/O L, R
MIC L, R
AFM AUDIO PROCESS
REC AFM
PB 1.5M
PB 1.7M
IC605
MATRIX AMP
1.5MHz 1.7MHz BPF
AU-120 BOARD (See Page 146)


VC-104 BOARD
(See Page 97, 102, 105)
IC805
SIGNAL SEPARATION AGC
IC802
IC803
A/D CONV
IC707
CAMERA CORE (DIGITAL CAMERA PROCESS)
IC804
V DRIVE
IC801
TIMING GENERATOR
IC702
EVR
ADJUST VOLTAGE
IC705
DPD
IC710
TITLE MEMORY
TITLER
IC711
IC704
SYNC GENERATOR
IC703
ON SCREEN DISPLAY
IC706
FOCUS PRE DRIVE
MAN FOCUS 1, 2
CAM SO, CAM SI, CAM SCK
VTR SO, VTR SI, VTR SCK
CAM Y
CAM C
VS-83 BOARD (See Page 113, 118, 121, 125)
IC151
LOADING MOTOR DRIVE
M903 LOADING MOTOR
S993 MODE SWITCH
LOAD, UN LOAD
MSW A-C
IC156
SYSTEM CONTROL / SERVO
SYSTEM CONTROL
SERVO
IC153
EXPANTION PORT
VIDEO, AUDIO CONTROL SIG.
LCD SI, LCD SO, LCD SCK
VIDEO, AUDIO, SERVO CONTROL SIG.
FP-115 BOARD
DEW SENSOR
Q991 TAPE TOP SENSOR
D991 TAPE LED
H992 T REEL FG SENSOR
H991 S REEL FG SENSOR
Q992 TAPE END SENSOR
IC154 (1/2)
DEW DETECT
TAPE TOP DETECT
T REEL FG AMP
S REEL FG AMP
TAPE END DETECT
DEW
TAPE TOP
T REEL (+), (-)
S REEL (+), (-)
TAPE END
TAPE LED
S991 C. C. LOCK
S992 ME/MP REC PROOF
ME/MP SW
REC PROOF SW
(See Page 130)
IC152
BACKUP Vdd SWITCH
EVER 5V
BACKUP VDD
SIRCS
LI-3V
IC160
LANC I/O
LANC SO, LANC SI
LANC DATA
IC307, IC308
EVR
ADJUST VOLTAGE
IC001 – IC004
REC/PB AMP
CH2 B
CH1 B
CH2 A
CH1 A
RF SWP
1/2 RF SWP
FLYING ERASE
FLYING ERASE OSC
FE
D PG, D FG
IC154 (1/2)
WAVE SHAPER
DRUM PG, DRUM FG
RF SWP
1/2 RF SWP
CLOG PB, SP/LP DET
M901 DRUM MOTOR
DRUM PG, FG
IC157 (1/2)
DRUM MOTOR DRIVE
DRUM VS
DD-37 BOARD (1/2)
DRUM PWM DRIVE
IC922 (1/2)
IC921 (1/2)
CAPSTAN PWM DRIVE
(See Page 163)
IC157 (1/2)
LPF
LPF
DRUM ERROR
DRUM PWM
CAP ERROR
CAP PWM
M902 CAPSTAN MOTOR
CAPSTAN FG
IC159
CAPSTAN MOTOR DRIVE
WAVE SHAPER
CAP VS
CFG (+), (-)
CAP FG
REF PILOT
ATF ERROR
IC161
ATF, SERVO
PB SP/LP DET
CLOG DET
PB RF
REC ATF
IC155
5V REG
EVER 5V
(See Page 134)
LC-33 BOARD
IC251
LCD CONTROL
LCD
AF ON, LENS OPEN
S002 – 012 CAMERA FUNCTION SWITCH
S001, 014, 015 BILINGUAL EDIT, REMOCON SWITCH
CF-3100 BOARD
(See Page 136)
FK-3100 FK-3101 BOARD
E, Australian model
AEP, UK model
(See Page 131)
S001 – S006 VTR CAMERA FUNCTION SWITCH PUSH SWITCH
LITHIUM BATTERY
LJ-4 BOARD (See Page 131)
J291 REMOTE
(See Page 163)
DD-37 BOARD (1/2)
IC921
IC922
CAMERA DC/DC CONVERTER
VTR DC/DC CONVERTER
CAM DD ON
CAM 15V
CAM -9V
CAM 5V
D4V
D5V
MT 5V
EVF 5V
AU 5V
VID 5V
RP 5V
VTR DD ON
CAM UNREG
VTR UNREG
MAIN BATTERY
(See Page 155)
VF-42 BOARD
DY
DH1, DH2
H
V
T501
HV
H OUT
CRT
CRT DRIVE
IC501
G1
EVF VIDEO

3-3. CAMERA (1) BLOCK DIAGRAM

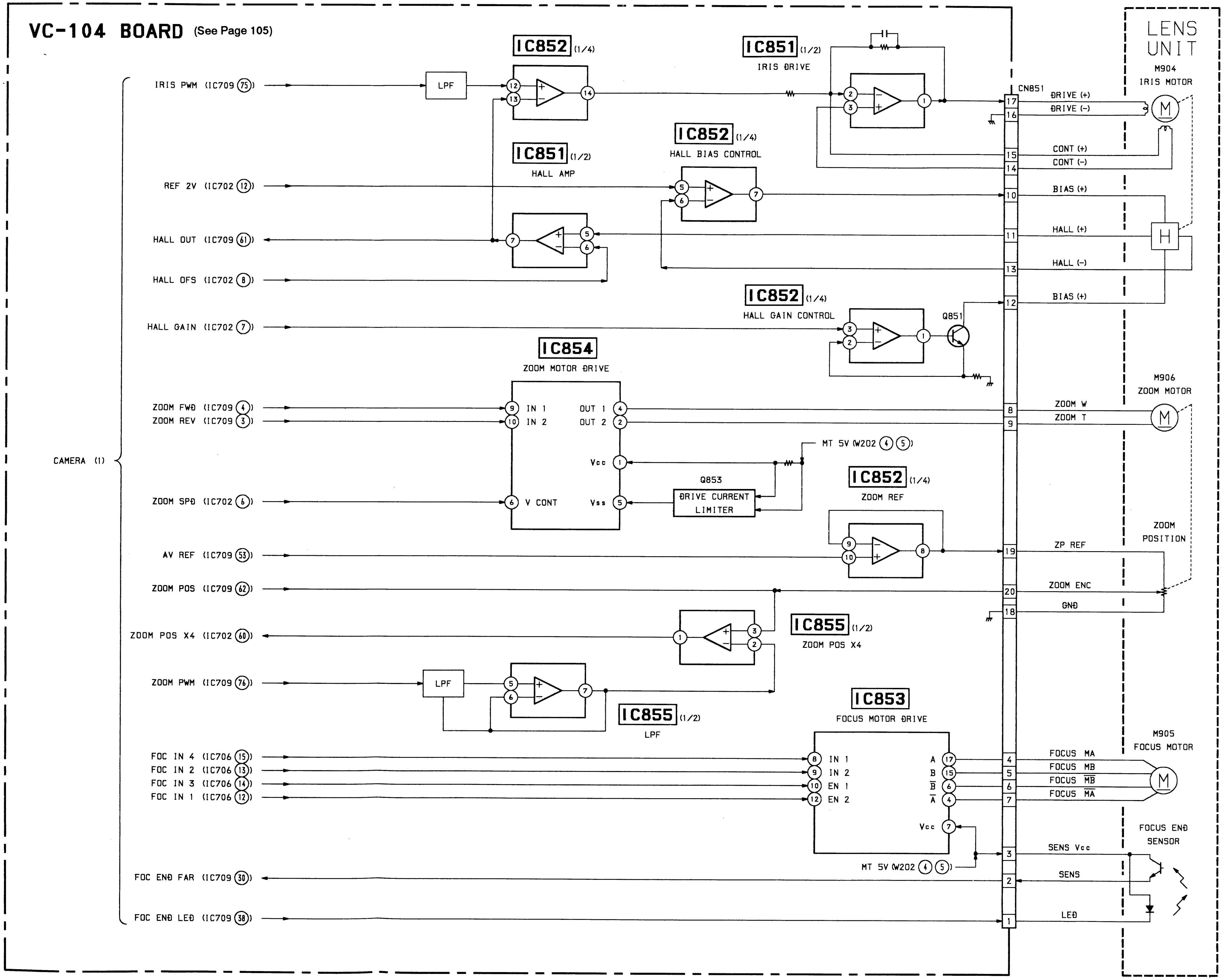

VC-104 BOARD
(See Page 97, 102, 105)
CD-73 BOARD
(See Page 91)
IC901
CCD IMAGER
Q903 BUFFER
Q901, 902 V SUB REG
D901 23V RECT
CN901
CN801
CN701
IC805
SIGNAL SEPARATION AGC/IRIS CONTROL
SAMPL HOLD
AGC
CLAMP
LPF
CLAMP BLANKING
GATE
COMP
MAX
SLICE
OR
MODE SWITCH
BLANKING
WINDOW
IC803
A/D BIAS AMP
Q801 BUFFER
IC804
V DRIVE
IC801
TIMING GENERATOR
X801 28.375MHz
Q802 BUFFER
1/2
IC702
D/A CONVERTER (EVR)
IC706
FOCUS PRE DRIVER
IC709
CAMERA CONTROL
IC708
RESET
IC712
EEP ROM (NON VOLATILE MEMORY)
IC705
OPG
IC701
Q702 3V REG
Q707
Q701
X701
IC901 ③.④
IC901 ⑤.⑥
IC901 ⑱
IC901 ⑬
IC901 ⑰
Q903 ⑤
IC801 ㊲
IC801 (57)
IC801 ⑤
IC805 ③
IC803 ②
IC707 (80)
IC707 (84)
IC704 ⑭
IC704 (63)
IC709 (43)
9Vp-p
5Vp-p
0.7Vp-p
3.5Vp-p
5.6Vp-p
3Vp-p
0.4Vp-p
2.6Vp-p
14.187MHz
9.44MHz
10MHz
CAMERA (2)
CAMERA 2
FOR CHECK


IC803
A/D BIAS AMP
BUFFER
Q801
CLAMP
DRIVE
VCLP
VRB
VRT
Vcc 1
Vcc 2
Vcc 3
CAM 5V
IC803 ②
0.4Vp-p
IC803 ⑧
1Vp-p
AGC CONT 1
AGC CONT 2
S1 OFFSET
A/D REF
IC802
A/D CONVERTER
V IN H
V IN L
V REF BS
V REF B
VREF T
V REF TS
D9 (MSB)
D0 (MSB)
CLK
A/D CLK
D Vcc
A Vcc
D Vcc 2
4V (Q707)
IC707
CAMERA CORE
(DIGITAL CAMERA PROCESS)
IC707 (86)-(95)
3Vp-p
0.2μsec
DE
1H DERAY
DELAY
TRAP
DL
HORIZONTAL APERTURE COMPENSATOR
APCN LEVEL
BPF
GAIN SELECT
HAP CG1
HAP CG2
DETALE
ROM
VH GAIN
VH SLICE
CORING
VERTICAL APERTURE COMPENSATOR
LPF
VAPCN GAIN
INTER FACE
CAM SO
CS CORE
CAM SI
CAM SCK
CORE RESET
AJST
MCK
CL
VCK
ADCK
HD
VD
DEF
VHLD
R MATRIX B MATRIX
G/Gb WHITE BALANCE
R/B WHITE BALANCE
CHROMA GAMMA
GAMMA ROM
R-G/B-G
EFECT
SFC
HUE GAIN
R-Y/B-Y
BURST BLK ADD
ENCODER
PAL NTSC
VOC
COL
D/A CONV
IOC
VREF C
Y GAMMA
SOLAR
FADER OUT LEVEL
FADER
SET UP
WHUITE CLIP
SYNK BLK CHRACTER MIX
DDY7 - DDY0
IO Y
V REF Y
C SYNK
C BLK
C VOW
C VOB
TIY7 - TIY0
YTMG
HHLD
BU SW
TIC7 - TIC0
COIS
DDC7-DDC0
CS ST CTMG
BF
LALT
CMPX
CTIM
IC707 (51)
1.2Vp-p
IC707 (64)
IC707 (66)
IC707 (67)
IC707 ㉚
0.5Vp-p
IC707 (80)
4.5Vp-p
0.1μsec
IC707 (84)
IC707 (68)
IC707 (69)
Q703
Q704
Q706
BUFFER
4.43MHz BPF
W202
CAM Y
CAM C
VIDEO (1) (VS-83)
IC704
SYNC GENERATOR
PB SYNC
CR PULSE
AFC
HALF H KILLER
SPEED DETECT
PHASE COMP
ENVD
CLP
PDF
XPDF
FDI
FDO
AFCI
602fH VCO
AFCO
LCK
SYNC GENERATOR
VTR
CAM
760H
510H
760H:760H CCD SYSTEM
510H:510H CCD SYSTEM
FSC
FSI
CFO
IC701
1/4
1/4 (VTR)
1/5 (PAL·CAM)
PHASE COMP
VARI
PLLO
VCO
4FSC (VTR)
5/4 (PAL.CAM)
OFF (NTSC.CAM)
PLLI
PDI
PDP
3FSO
3FSI
PAL·VTR
PAL·CAM
NTSC
D4V
(Q702) 3V
Vdd
A VD 3
A VD 2
A VD 1
Vdd (3V)
IC704 ⑭
2.6Vp-p
IC704 (63)
3Vp-p
0.27μsec
SETUP
REGH
FLD
C SYNC
LALT
CBLK
1/3 COUNTER
8FSC
TCK
2fH
MOSAIC HOLD TIMING
H HLD
V HLD
1/2 (510H.CAM VTR)
1/3 (760H.CAM)
POLAITY
CG CK
PROG DELAY
CG H
VCK
XRES
SYS RESET
VTR SCK
S IN
VTR SO
CS SG
CONTROL DATA LATCH
PB TITLE COLOR DATA
CGV
CAM VD
PB V
CVOW
CVOB
CRTC MASC
V MON
V BLK
VB
VG
VR
SVOW
SVOB
EVOW
EVOB
SVOW, SVOB, EVOW
PB TITLE CHROMA MODURATOR D/A CONVERTER
PBTC
VREF
TEST
PBL
IC703
ON SCREEN DISPLAY
MON
R BLK
G
Vdd
OSC1
LCD SO
STB CRTC
CS CRTC
D5V
(W202 ⑭⑮)
IC711
TITLER
MMCK
TCK
MPX
CT IM
YT IM
BD IR
TY7 - TY0
TC7 - TC0
DL1
Vcc (5V)
NT/PAL
BUSY
XCE
SIN
SO
SCK
XWE
TITLE BUSY
CS TITLE
VTR SI
A0 - A14
I/O 7 - I/O 0
68·70·72·76·2·3·5·4·77·1·78
6·9·11·14
10·9·3·25·24·21·23·2·26·1
11·13·15·19
IC710
TITLE MEMORY
64K S RAM
WE
CE
Q705
CS S RAM
BACKUP Vdd
PB SYNC
FSC
REG H
EVF VOW
SR VOW
SR VOB
Y CHK
CN701
FOR CHECK
CAM POWER ON
TG STBY 1
CS SRAM
CS CAM
CAM RESET
CR PULS
MAN FOCUS (1)
MAN FOCUS (2)
ZOOM SW
SYSCON (VS-83)
D4V
D5V
CAM 5V
CAM -9V
CAM 15V
MT 5V
POWER (VS-83)
(IC802, 707)

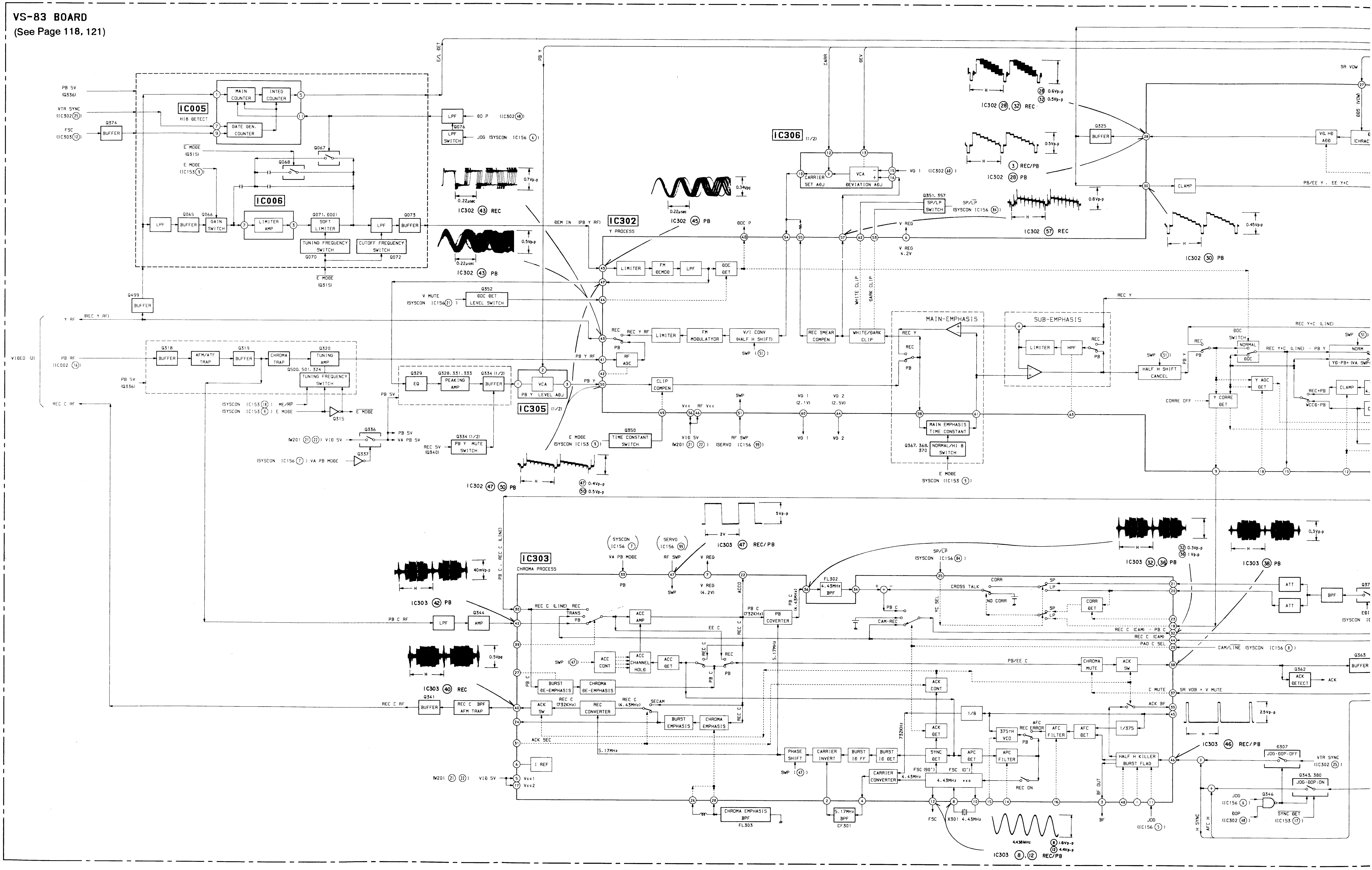
3-4. CAMERA MICROPROCESSOR PIN FUNCTION (IC709 ON VC-104 BOARD: CXP80624-227Q/235Q)

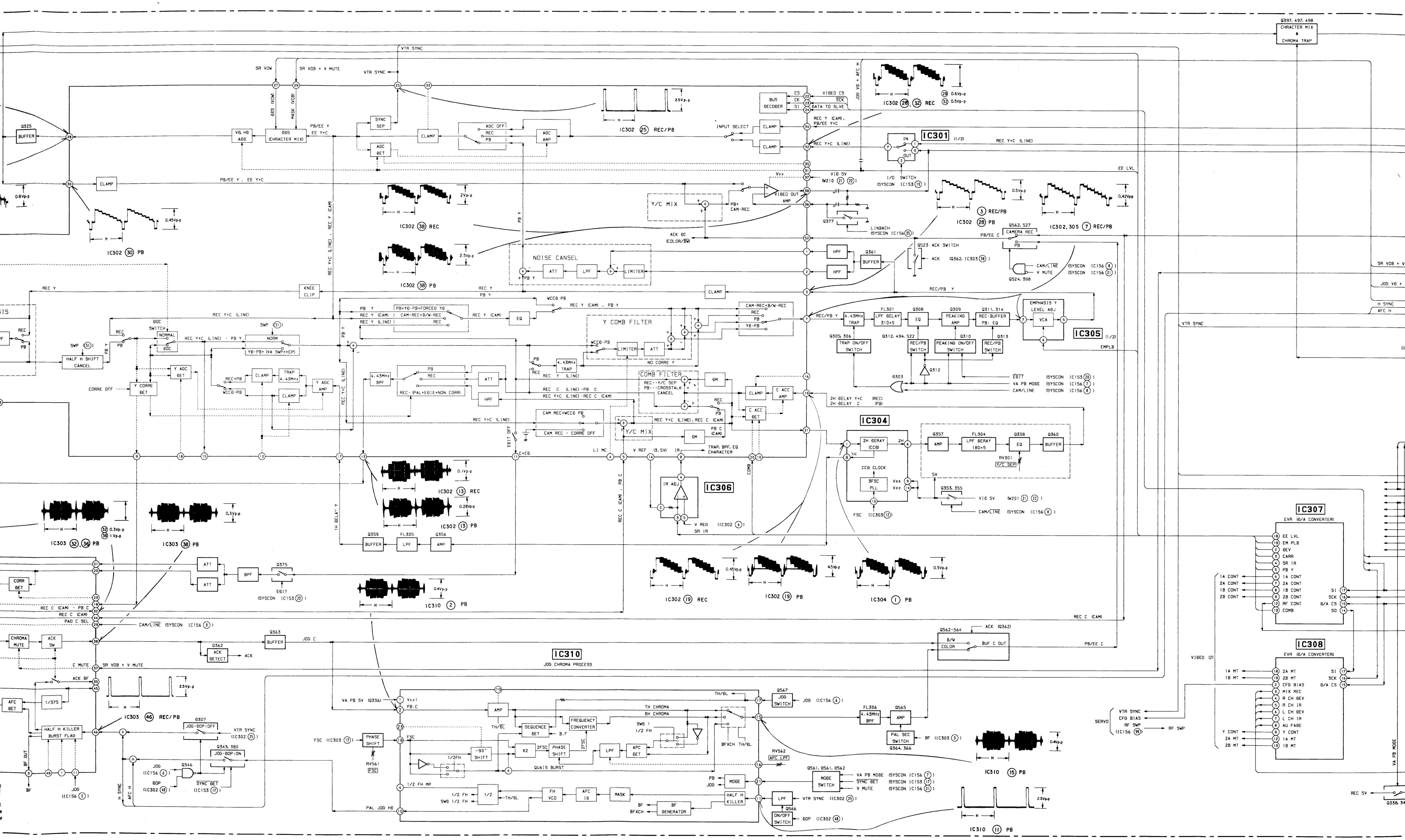
Pin No.	Signal	I/O	Function
1	EPROM DI	O	Serial data output to EEPROM. (IC712 on VC-104 board) "H" pulse train when data writing. Normally fixed to "L" or "H".
2	EPROM SCK	O	EEPROM serial data transfer clock. "H" pulse train when data reading/writing. Period is undefined. Normally "L".
3	ZOOM M REV	O	Zoom motor control signal. Normally "H". 20 msec period PWM signal when rotating to WIDE.
4	ZOOM M FWD	O	Zoom motor control signal. Normally "H". 20 msec period PWM signal when rotating to TELE.
5	PB1		Not used.
6	PB0		
7	RT07/D7		
8	RT06/D6		
9	RT05/D5		
10	CORE RESET	O	Camera core (IC707 on VC-104 board) reset signal. Normally "H". "L" when reset.
11	PDR RESET	O	Focus predriver (IC706 on VC-104 board) reset signal. Normally "H". "L" when reset.
12	TG STBY1		Not used.
13	TG SYBY2		Timing generator (IC801 on VC-104 board) standby signal 2. Normally "L".
14	OPD RESET	O	OPD (IC705 on VC-104 board) reset signal. "H": camera mode. "L": VTR mode.
15	PJ7/FSEL31		Not used.
16	PJ6/FSEL30		
17	PJ5/FSEL21		
18	PJ4/FSEL20		
19	PJ3/FSEL11		
20	PJ2/FSEL10		
21	PJ1/FSEL01		
22	PJ0/FSEL00		
23	EPROM DO	O	Serial data input from EEPROM. Normally "L". "H" pulse train when data reading.
24	EPROM BUSY	I	BUSY signal from EEPROM. Normally "H". "L" pulse when data reading/writing.
25	FOC NEAR		Not used.
26	FOC FAR		
27	PD3/C		Fixed to +5V.
28	PD2/R/W		
29	WIDE END		
30	FOC END FAR	I	Focus end FAR sensor input. Normally "L".
31	$\overline{\text{CAM ON}}$	O	Power supply control signal. Normally "L".
32	PH6		Not used.
33	PH5		
34	PH4		
35	PH3		
36	PH2		
37	PH1		
38	FOC END LED	O	Focus end sensor LED control signal. Normally "H" (4.4V).
39	MP		Connected to GND.
40	$\overline{\text{CAM RESET}}$	I	Reset signal input. Normally "H". "L" when reset.
41	VSS		GND
42	XTAL	O	10 MHz clock oscillation circuit
43	EXTAL	I	
44	CS CAM	I	Chip select signal from system control microprocessor. (IC156 on VS-83 board)
45	VTR SI	I	Serial data input from system control microprocessor.
46	VTR SO	O	Serial data output from system control microprocessor.
47	VTR SCK	I	Serial data transfer clock
48	PF7/AN11		Not used.
49	PF6/AN10		
50	PF5/AN9		Not used.
51	PF4		
52	AVSS		GND
53	AVREF		Analog input port reference voltage (5V)
54	AVDD		Analog input port voltage (5V)
55	PF3/AN7		Connected to GND.
56	PF2/AN6		
57	MAN FOCUS (2)	I	Manual focus input. 0 to 5 Vdc.
58	MAN FOCUS (1)	I	Manual focus input. 0 to 5 Vdc.
59	ZOOM SW	I	Zoom key input. 0V: F. TELE, 0.8V and 1.4V: F. WIDE, 2.1V and 5V: no input.
60	ZOOM POS X4	I	Zoom position voltage. approx. 0V (WIDE end) to approx. 3V (TELE end).
61	HALL A/D	I	Hall voltage. approx. 1V (iris open) to approx. 3V (iris close).
62	ZOOM POSITION A/D	I	Zoom position voltage. approx. 0.2V (WIDE end) to approx. 2.4V (TELE end).
63	PG7/EX11		Connected to 5V.
64	PG6/EX10		
65	PG5/SYNC1		
66	VTR SYNC		
67	PB CTL		
68	DPG		
69	FOC FG		
70	AF BUSY	I	AF busy signal
71	PE7/DAB1		Not used.
72	PE6/DAB0		
73	PE5/DAA1		
74	PE4/DAA0		
75	IRIS PWM	O	Iris control signal. 25.5 μsec period PWM signal
76	ZP PWM	O	Zoom position detection voltage output. 25.5 μsec period PWM signal
77	AJST	I	Adjustment timing pulse input. Normally "H".
78	VD	I	VD signal input from sync generator
79	CAM SI	I	Serial data input
80	CAM SO	O	Serial data output
81	CAM SCK	O	Serial data transfer clock
82	CS CAM		Not used.
83	PI/TO		
84	PI/PWM		
85	PI/PO		
86	PI O		Connected to +5V.
87	PKO		
88	GND		GND
89	VDD		+5V power supply
90	VPP		
91	PA7/A15		Not used.
92	$\overline{\text{CS PDR}}$	O	Chip select signal to focus predriver (IC706 on VC-104 board)
93	$\overline{\text{CS CAM D/A}}$	O	Chip select signal to camera EVR (IC702 on VC-104 board)
94	CS ROM	O	Chip select signal to EEPROM (IC712 on VC-104 board)
95	$\overline{\text{CS OPD}}$	O	Chip select signal to OPD (IC705 on VC-104 board)
96	$\overline{\text{NTSC}}$	O	NTSC: "L", PAL: "H"
97	$\overline{\text{CS CORE}}$	O	Chip select signal to camera core (IC707 on VC-104 board)
98	$\overline{\text{CS TG}}$	O	Select signal to timing generator (IC801 on VC-104 board)
99	J STB		Not used.
100	PB6		

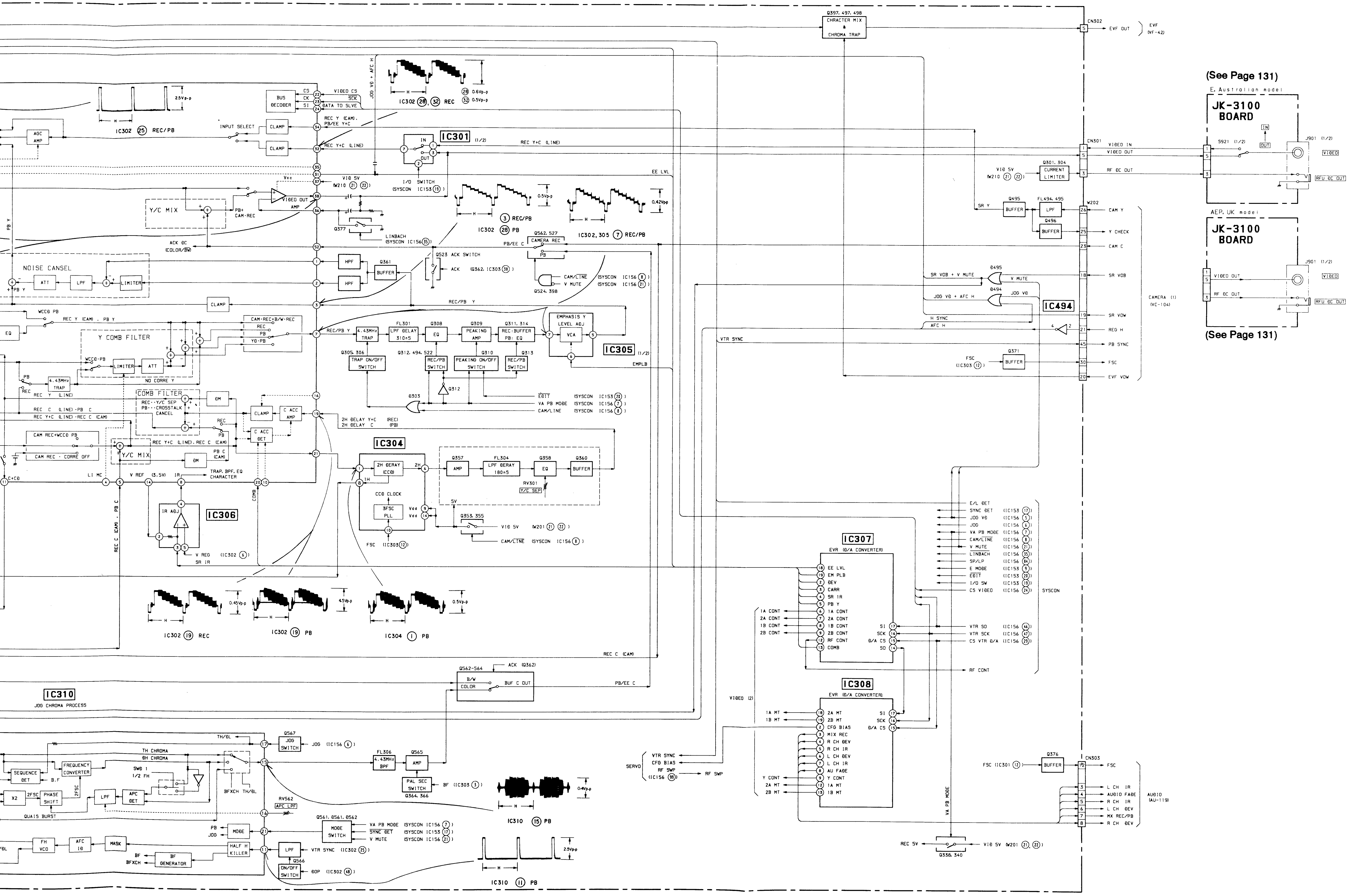
3-5. CAMERA (2) BLOCK DIAGRAM


VC-104 BOARD (See Page 105)
LENS UNIT
CAMERA (1)
IRIS PWM (IC709 (75))
REF 2V (IC702 (12))
HALL OUT (IC709 (61))
HALL OFS (IC702 (8))
HALL GAIN (IC702 (7))
ZOOM FWD (IC709 (4))
ZOOM REV (IC709 (3))
ZOOM SPD (IC702 (6))
AV REF (IC709 (53))
ZOOM POS (IC709 (62))
ZOOM POS X4 (IC702 (60))
ZOOM PWM (IC709 (76))
FOC IN 4 (IC706 (15))
FOC IN 2 (IC706 (13))
FOC IN 3 (IC706 (14))
FOC IN 1 (IC706 (12))
FOC END FAR (IC709 (30))
FOC END LED (IC709 (38))
LPF
IC852 (1/4)
IC851 (1/2)
IRIS DRIVE
IC852 (1/4)
HALL BIAS CONTROL
IC851 (1/2)
HALL AMP
IC852 (1/4)
HALL GAIN CONTROL
Q851
IC854
ZOOM MOTOR DRIVE
IN 1
IN 2
OUT 1
OUT 2
Vcc
V CONT
Vss
MT 5V (W202 (4) (5))
Q853
DRIVE CURRENT LIMITER
IC852 (1/4)
ZOOM REF
IC855 (1/2)
ZOOM POS X4
LPF
IC855 (1/2)
LPF
IC853
FOCUS MOTOR DRIVE
IN 1
IN 2
EN 1
EN 2
A
B
B̄
Ā
Vcc
MT 5V (W202 (4) (5))
CN851
DRIVE (+)
DRIVE (−)
CONT (+)
CONT (−)
BIAS (+)
HALL (+)
HALL (−)
BIAS (+)
ZOOM W
ZOOM T
ZP REF
ZOOM ENC
GND
FOCUS MA
FOCUS MB
FOCUS M̄B̄
FOCUS M̄Ā
SENS Vcc
SENS
LED
M904
IRIS MOTOR
M
H
M906
ZOOM MOTOR
ZOOM POSITION
M905
FOCUS MOTOR
FOCUS END SENSOR

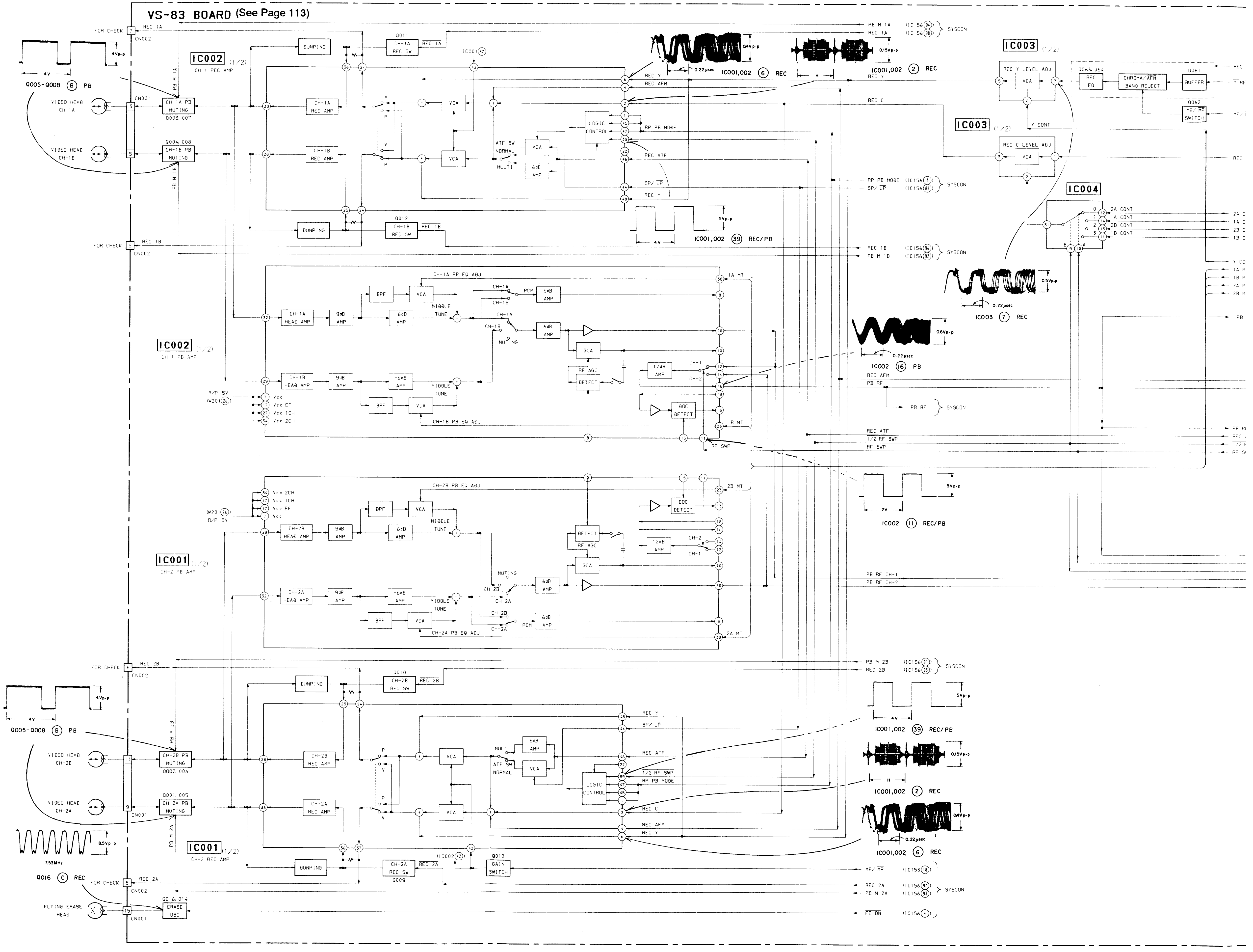
3-6. VIDEO (1) BLOCK DIAGRAM

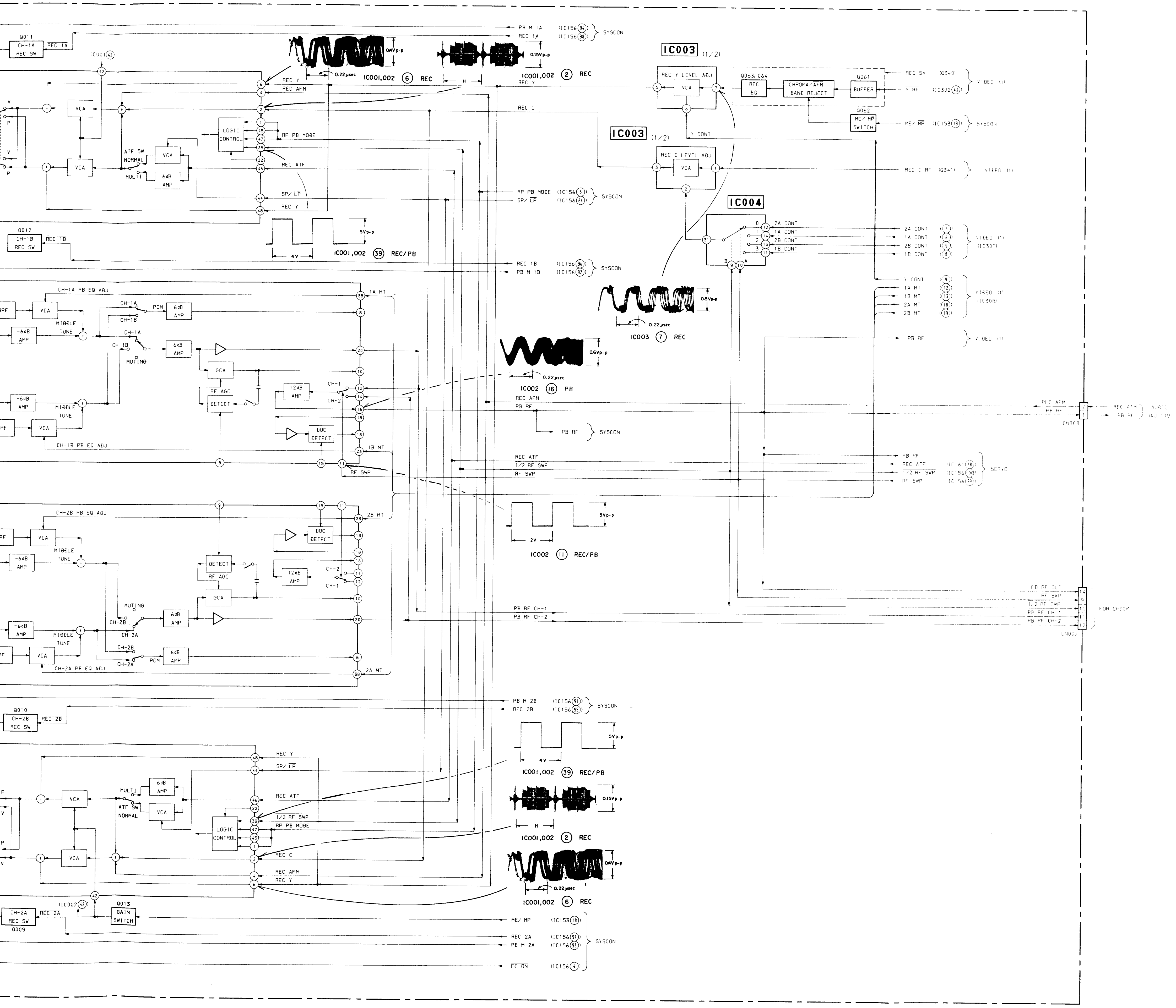

VS-83 BOARD
(See Page 118, 121)
IC005
H18 DETECT
MAIN COUNTER
INTEG COUNTER
GATE GEN. COUNTER
PB 5V (Q336)
VTR SYNC (IC302 (35))
FSC (IC303 (12))
Q374
BUFFER
IC006
LIMITER AMP
SOFT LIMITER
GAIN SWITCH
TUNING FREQUENCY SWITCH
CUTOFF FREQUENCY SWITCH
LPF
LPF SWITCH
JOG (SYSCON IC156 (6))
E MODE (Q315)
E MODE (IC153 (9))
Q499
BUFFER
V MUTE (SYSCON IC156 (21))
Q352
DOC DET LEVEL SWITCH
IC302
Y PROCESS
LIMITER
FM DEMOD
DOC DET
FM MODULATOR
V/I CONV (HALF H SHIFT)
RF AGC
CLIP COMPEN
REC SMEAR COMPEN
WHITE/DARK CLIP
WHITE CLIP
DARK CLIP
IC306 (1/2)
CARRIER SET ADJ
VCA DEVIATION ADJ
Q351, 357 SP/LP SWITCH
SP/LP (SYSCON IC156 (84))
V REG 4.2V
MAIN-EMPHASIS
SUB-EMPHASIS
MAIN EMPHASIS TIME CONSTANT
Q367, 368, 370 NORMAL/HI 8 SWITCH
E MODE SYSCON (IC153 (5))
LIMITER
HPF
IC305 (1/2)
Q329 EQ
Q328, 331, 333 PEAKING AMP
Q334 (1/2) BUFFER
VCA PB Y LEVEL ADJ
Q334 (1/2) PB Y MUTE SWITCH
REC 5V (Q340)
Q350 TIME CONSTANT SWITCH
E MODE (SYSCON IC153 (9))
Q318 BUFFER
AFM/ATF TRAP
Q319 BUFFER
CHROMA TRAP
Q320 TUNING AMP
Q500, 501, 324 TUNING FREQUENCY SWITCH
Q315
Q336
Q337
(SYSCON IC156 (7)) VA PB MODE
VIDEO (2)
Y RF
PB RF (IC002 (16))
REC C RF
IC302 (43) REC
IC302 (43) PB
IC302 (45) PB
IC302 (47) (50) PB
IC302 (28), (32) REC
IC302 (28) PB
IC302 (57) REC
IC302 (30) PB
Q325 BUFFER
CLAMP
HALF H SHIFT CANCEL
Y CORRE DET
Y AGC DET
CORRE OFF
IC303
CHROMA PROCESS
ACC AMP
ACC CONT
ACC CHANNEL HOLD
ACC DET
BURST DE-EMPHASIS
CHROMA DE-EMPHASIS
REC CONVERTER
BURST EMPHASIS
CHROMA EMPHASIS
PB COVERTER
FL302 4.43MHz BPF
CROSS TALK
CORR DET
CHROMA MUTE
ACK SW
ACK CONT
ACK DET
1/8
375fH VCO
AFC FILTER
AFC DET
1/375
PHASE SHIFT
CARRIER INVERT
BURST 10 FF
BURST 10 DET
SYNC DET
APC DET
APC FILTER
CARRIER CONVERTER
4.43MHz VXO
HALF H KILLER BURST FLAG
I REF
CHROMA EMPHASIS BPF FL303
5.17MHz BPF CF301
X301 4.43MHz
Q341 BUFFER
REC C BPF AFM TRAP
LPF
Q344 AMP
IC303 (42) PB
IC303 (40) REC
IC303 (47) REC/PB
IC303 (32), (36) PB
IC303 (38) PB
IC303 (46) REC/PB
IC303 (8), (12) REC/PB
Q362 ACK DETECT
Q363 BUFFER
Q307 JOG·DDP:OFF
Q343, 380 JOG·DDP:ON
Q346
VTR SYNC (IC302 (35))
SYNC DET (IC153 (17))
ATT
BPF
CAM/LINE (SYSCON IC156 (8))


IC301 (1/2)
IC304
IC305 (1/2)
IC306
IC307
EVR (D/A CONVERTER)
IC308
EVR (D/A CONVERTER)
IC310
JOG CHROMA PROCESS
Q397, 497, 498
CHRACTER MIX & CHROMA TRAP
VTR SYNC
SR VDW
SR VDB + V MUTE
SYNC SEP
AGC DET
CLAMP
AGC OFF
REC
PB
AGC AMP
VD, HD ADD
DDS (CHRACTER MIX)
PB/EE Y
EE Y+C
BUS DECODER
CS
CK
SI
VIDEO CS
SCK
DATA TO SLVE
INPUT SELECT
REC Y (CAM), PB/EE Y+C
REC Y+C (LINE)
IN
OUT
I/O SWITCH (SYSCON IC153 (19))
EE LVL
Q325
BUFFER
PB/EE Y, EE Y+C
0.8Vp-p
0.45Vp-p
IC302 (30) PB
IC302 (25) REC/PB
2.5Vp-p
IC302 (28), (32) REC
(28) 0.6Vp-p
(32) 0.5Vp-p
2Vp-p
IC302 (38) REC
2.5Vp-p
IC302 (38) PB
Y/C MIX
PB+ CAM-REC
VIDEO OUT AMP
Vcc
VID 5V (W210 (21) (22))
Q377
LINBACH (SYSCON IC156 (35))
0.5Vp-p
IC302 (28) PB
(3) REC/PB
0.42Vpp
IC302, 305 (7) REC/PB
ACK DC (COLOR/BW)
NOISE CANSEL
ATT
LPF
LIMITER
PB Y
HPF
Q361 BUFFER
Q523 ACK SWITCH
ACK (Q362, IC303 (38))
Q562, 527 CAMERA REC
PB/EE C
CAM/LINE (SYSCON IC156 (8))
V MUTE (SYSCON IC156 (21))
Q524, 398
REC Y
KNEE CLIP
REC/PB Y
REC Y+C (LINE)
WCCD PB
REC Y (CAM), PB Y
PB+YD·PB+FORCED YD
CAM·REC+B/W·REC
REC Y (CAM)
REC Y (LINE)
EQ
CAM·REC+B/W·REC
Y0·PB
Y COMB FILTER
DOC SWITCH
NORMAL
DOC
SWP (51)
NORM
YD·PB+ (VA SWP+HCP)
REC Y+C (LINE), PB Y
HALF H SHIFT CANCEL
Y AGC DET
Y CORRE DET
CORRE OFF
CLAMP
TRAP 4.43MHz
Y AGC AMP
REC+PB
WCCD·PB
4.43MHz BPF
REC· (PAL+EDIT+NON CORR)
4.43MHz TRAP
REC Y (LINE)
NO CORRE Y
LIMITER
COMB FILTER
REC··Y/C SEP
PB··CROSSTALK CANCEL
DM
REC C (LINE)·PB C
REC Y+C (LINE)·REC C (CAM)
CAM REC+WCCD PB
CAM REC · CORRE OFF
EDIT OFF
C+CD
LI MC
V REF (3.5V)
IR
TRAP, BPF, EQ CHARACTER
REC Y+C (LINE), REC C (CAM)
PB C (CAM)
C ACC AMP
C ACC DET
2H DELAY Y+C (REC)
2H DELAY C (PB)
FL301 LPF DELAY 310×5
Q308 EQ
Q309 PEAKING AMP
Q311, 314 REC: BUFFER PB: EQ
EMPHASIS Y LEVEL ADJ
VCA
EMPLB
Q305, 306 TRAP ON/OFF SWITCH
Q312, 494, 522
Q310 PEAKING ON/OFF SWITCH
Q313 REC/PB SWITCH
Q303
EDIT (SYSCON IC153 (22))
VA PB MODE (SYSCON IC156 (7))
CAM/LINE (SYSCON IC156 (8))
2H DERAY (CCD)
CCD CLOCK
3FSC PLL
FSC (IC303 (12))
Q357 AMP
FL304 LPF DERAY 180×5
Q358 EQ
RV301 Y/C SEP
Q360 BUFFER
Q353, 355
VID 5V (W201 (21) (22))
CAM/LINE (SYSCON IC156 (8))
IR ADJ
V REG (IC302 (6))
SR IR
1H DELAY Y
0.1Vp-p
IC302 (13) REC
0.28Vp-p
IC302 (13) PB
Q359 BUFFER
FL305 LPF
Q356 AMP
0.3Vp-p
IC303 (38) PB
(32) 0.3Vp-p
(36) 1Vp-p
IC303 (32), (36) PB
0.45Vp-p
IC302 (19) REC
4.5Vp-p
IC302 (19) PB
0.5Vp-p
IC304 (1) PB
BPF
Q375
EDIT (SYSCON IC153 (22))
0.4Vp-p
IC310 (2) PB
CORR DET
REC C (CAM)·PB C
REC C (CAM)
PAD C SEL
CAM/LINE (SYSCON IC156 (8))
CHROMA MUTE
ACK SW
Q362 ACK DETECT
Q363 BUFFER
JOG C
C MUTE
SR VDB + V MUTE
ACK BF
2.5Vp-p
IC303 (46) REC/PB
AFC BET
1/375
HALF H KILLER BURST FLAG
Q307 JOG·DOP:OFF
VTR SYNC (IC302 (25))
Q343, 380 JOG·DOP:ON
Q346
JOG (IC156 (6))
DOP (IC302 (48))
SYNC DET (IC153 (7))
BF
JOG (IC156 (5))
H SYNC
AFC H
VA PB 5V (Q336)
Vcc1
PB.C
AMP
TH/OL
SEQUENCE DET
FREQUENCY CONVERTER
TH CHROMA
DH CHROMA
SWD 1
1/2 FH
BFXCH
FSC (IC303 (17))
PHASE SHIFT
RV561 FSC
1/2FH
-90° SHIFT
X2
2FSC
PHASE SHIFT
LPF
APC DET
QUAIS BURST
RV562 APC LPF
1/2 FH MP
1/2 FH
SWD 1/2 FH
1/2
FH VCO
AFC 16
MASK
PB
JOG
MODE
HALF H KILLER
BF
BFXCH
BF GENERATOR
PAL JOG HD
Q567 JOG SWITCH
JOG (IC156 (4))
FL306 4.43MHz BPF
Q565 AMP
PAL SEC SWITCH
Q364, 366
BF (IC303 (3))
0.4Vp-p
IC310 (15) PB
Q561, 0561, 0562 MODE SWITCH
VA PB MODE (SYSCON IC156 (7))
SYNC DET (SYSCON IC153 (17))
V MUTE (SYSCON IC156 (21))
LPF
Q566 ON/OFF SWITCH
VTR SYNC (IC302 (25))
DOP (IC302 (48))
2.5Vp-p
IC310 (11) PB
Q562-564
ACK (Q362)
B/W
COLOR
BUF C OUT
PB/EE C
REC C (CAM)
EE LVL
EM PLB
DEV
CARR
SR IR
PB Y
1A CONT
2A CONT
1B CONT
2B CONT
RF CONT
COMB
SI
SCK
D/A CS
SO
2A MT
2B MT
CFG BIAS
MIX REC
R CH DEV
R CH IR
L CH DEV
L CH IR
AU FADE
Y CONT
1A MT
1B MT
VIDEO (2)
SERVO
VTR SYNC
CFG BIAS
RF SWP
(IC156 (55))
RF SWP
SR VDB + V
JOG VD +
H SYNC
AFC H
VTR SYNC
VA PB MODE
REC 5V
Q338, 34

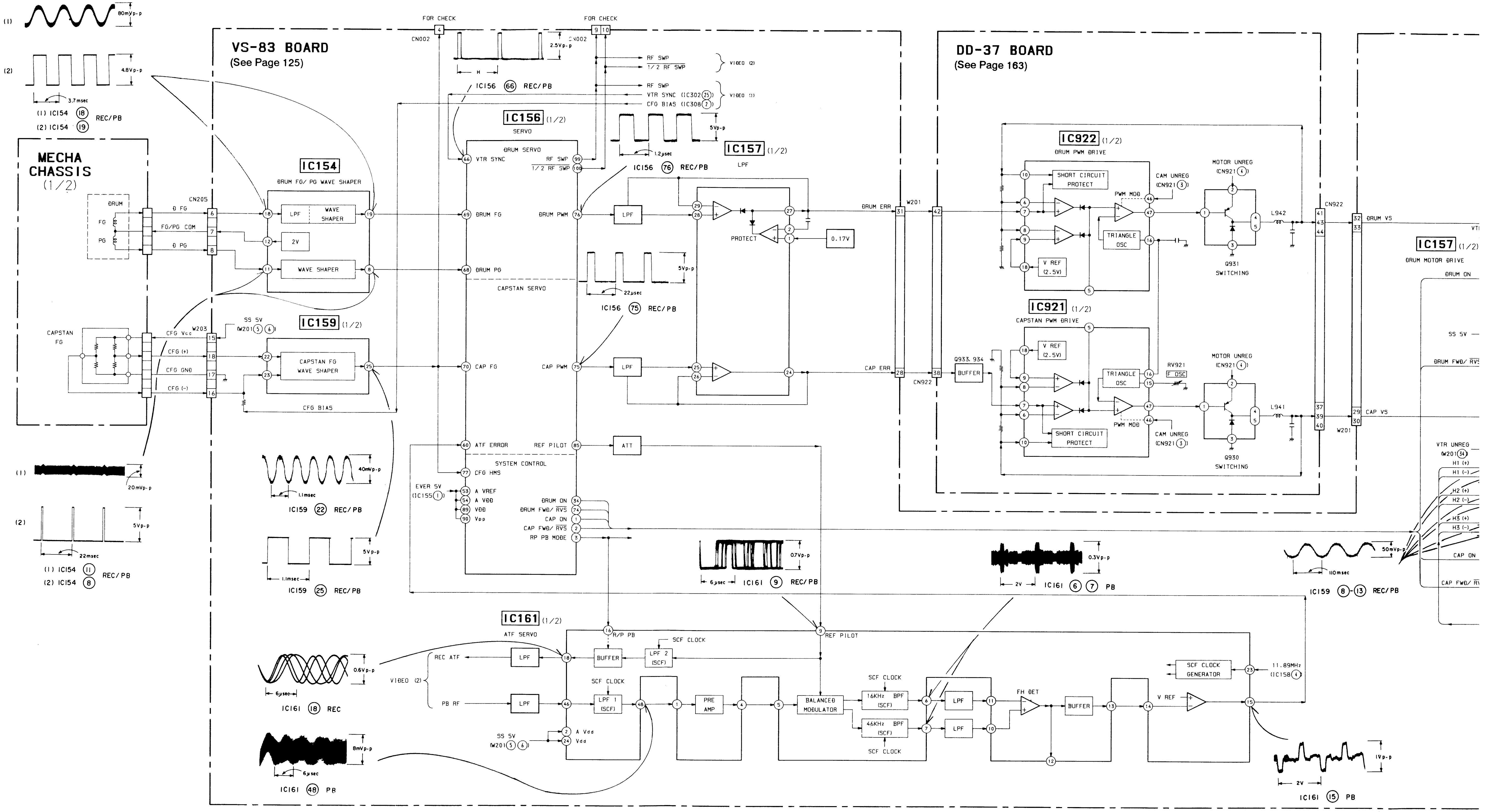

(See Page 131)
E. Australian model
JK-3100 BOARD
AEP, UK model
JK-3100 BOARD
(See Page 131)
S921 (1/2)
IN
OUT
J901 (1/2)
VIDEO
RFU DC OUT
VIDEO OUT
RF DC OUT
Q397, 497, 498
CHRACTER MIX & CHROMA TRAP
CN302
EVF OUT
EVF (VF-42)
CN301
VIDEO IN
VIDEO OUT
RF DC OUT
Q301, 304
CURRENT LIMITER
VID 5V (W210 ㉑ ㉒)
W202
Q495
BUFFER
FL494, 495
LPF
Q496
BUFFER
SR Y
CAM Y
Y CHECK
CAM C
D495
D494
SR VOB + V MUTE
V MUTE
JOG VD + AFC H
JOG VD
IC494
SR VOB
SR VOW
H SYNC
AFC H
REG H
PB SYNC
FSC (IC303 ⑫)
Q371
BUFFER
FSC
EVF VOW
CAMERA (1) (VC-104)
EE LVL
VTR SYNC
IC301
I/O SWITCH (SYSCON IC153 ⑲)
REC Y+C (LINE)
BUS DECODER
CS
CK
SI
VIDEO CS
SCK
DATA TO SLVE
JOG VD + AFC H
IC302 ㉘, ㉜ REC
㉘ 0.6Vp-p
㉜ 0.5Vp-p
IC302 ㉕ REC/PB
2.5Vp-p
INPUT SELECT
CLAMP
AGC AMP
REC Y (CAM), PB/EE Y+C
Vcc
VIDEO OUT AMP
Y/C MIX
PB+ CAM·REC
Q377
LINBACH (SYSCON IC156 ㉟)
③ REC/PB
IC302 ㉘ PB
IC302, 305 ⑦ REC/PB
0.5Vp-p
0.42Vp-p
Q562, 527
CAMERA REC
PB/EE C
PB
CAM/LINE
V MUTE
(SYSCON IC156 ⑧)
(SYSCON IC156 ㉑)
Q524, 398
ACK DC (COLOR/BW)
NOISE CANSEL
ATT
LPF
LIMITER
HPF
Q361
BUFFER
Q523 ACK SWITCH
ACK (Q362, IC303 ㊳)
REC/PB Y
CLAMP
WCCD PB
REC Y (CAM), PB Y
EQ
CAM·REC+B/W·REC
REC
PB
YD·PB
Y COMB FILTER
WCCD·PB
LIMITER
ATT
NO CORRE Y
4.43MHz TRAP
REC Y (LINE)
4.43MHz TRAP
FL301
LPF DELAY 310+5
Q308
EQ
Q309
PEAKING AMP
Q311, 314
REC:BUFFER PB: EQ
EMPHASIS Y LEVEL ADJ
VCA
IC305 (1/2)
EMPLB
Q305, 306
TRAP ON/OFF SWITCH
Q312, 494, 522
REC/PB SWITCH
Q310
PEAKING ON/OFF SWITCH
Q313
REC/PB SWITCH
Q303
Q312
EDIT (SYSCON IC153 ⑳)
VA PB MODE (SYSCON IC156 ⑦)
CAM/LINE (SYSCON IC156 ⑧)
COMB FILTER
REC··Y/C SEP
PB···CROSSTALK CANCEL
DM
CLAMP
C ACC AMP
C ACC DET
REC C (LINE)·PB C
REC Y+C (LINE)·REC C (CAM)
2H DELAY Y+C (REC)
2H DELAY C (PB)
CAM REC+WCCD PB
CAM REC · CORRE OFF
Y/C MIX
REC Y+C (LINE), REC C (CAM)
PB C (CAM)
DM
TRAP, BPF, EQ CHARACTER
LI MC
V REF (3.5V)
IR
IR ADJ
IC306
V REG (IC302 ⑥)
SR IR
COMB
REC C (CAM), PB C
IC304
2H DERAY (CCD)
CCD CLOCK
3FSC PLL
Vdd
FSC (IC303 ⑫)
Q357
AMP
FL304
LPF DERAY 180+5
RV301
Y/C SEP
Q358
EQ
Q360
BUFFER
5V
Q353, 355
VID 5V (W201 ㉑ ㉒)
CAM/LINE (SYSCON IC156 ⑧)
IC302 ⑲ REC
0.45Vp-p
IC302 ⑲ PB
4.5Vp-p
IC304 ① PB
0.5Vp-p
REC C (CAM)
Q562-564
ACK (Q362)
B/W
COLOR
BUF C OUT
PB/EE C
IC310
JOG CHROMA PROCESS
TH/DL
Q567
JOG SWITCH
JOG (IC156 ⑥)
TH CHROMA
DH CHROMA
SWD 1
1/2 FH
SEQUENCE DET
FREQUENCY CONVERTER
B.F
2FSC
X2
PHASE SHIFT
LPF
APC DET
QUAIS BURST
BFXCH
TH/DL
FL306
4.43MHz BPF
Q565
AMP
PAL SEC SWITCH
Q364, 366
BF (IC303 ③)
RV562
APC LPF
IC310 ⑮ PB
0.4Vp-p
Q561, Q561, Q562
MODE SWITCH
VA PB MODE (SYSCON IC156 ⑦)
SYNC DET (SYSCON IC153 ⑰)
V MUTE (SYSCON IC156 ㉑)
PB
JOG
MODE
FH VCO
AFC ID
MASK
HALF H KILLER
BF
BFXCH
BF GENERATOR
LPF
Q566
ON/OFF SWITCH
VTR SYNC (IC302 ㉕)
DOP (IC302 ㊽)
IC310 ⑪ PB
2.5Vp-p
VIDEO (2)
VTR SYNC
CFG BIAS
RF SWP
SERVO (IC156 ㊾)
RF SWP
IC307
EVR (D/A CONVERTER)
EE LVL
EM PLB
DEV
CARR
SR IR
PB Y
1A CONT
2A CONT
1B CONT
2B CONT
RF CONT
COMB
SI
SCK
D/A CS
SO
E/L DET
SYNC DET (IC153 ⑰)
JOG VD (IC156 ⑤)
JOG (IC156 ⑥)
VA PB MODE (IC156 ⑦)
CAM/LINE (IC156 ⑧)
V MUTE (IC156 ㉑)
LINBACH (IC156 ㉟)
SP/LP (IC156 ㊻)
E MODE (IC153 ⑨)
EDIT (IC153 ⑳)
I/O SW (IC153 ⑲)
CS VIDEO (IC156 ㉔)
VTR SO (IC156 ㊻)
VTR SCK (IC156 ㊼)
CS VTR D/A (IC156 ㉙)
SYSCON
RF CONT
IC308
EVR (D/A CONVERTER)
2A MT
2B MT
CFG BIAS
MIX REC
R CH DEV
R CH IR
L CH DEV
L CH IR
AU FADE
Y CONT
1A MT
1B MT
VA PB MODE
REC 5V
VID 5V (W201 ㉑, ㉒)
Q338, 340
FSC (IC301 ⑫)
Q376
BUFFER
CN303
FSC
L CH IR
AUDIO FADE
R CH IR
L CH DEV
MX REC/PB
R CH DEV
AUDIO (AU-119)

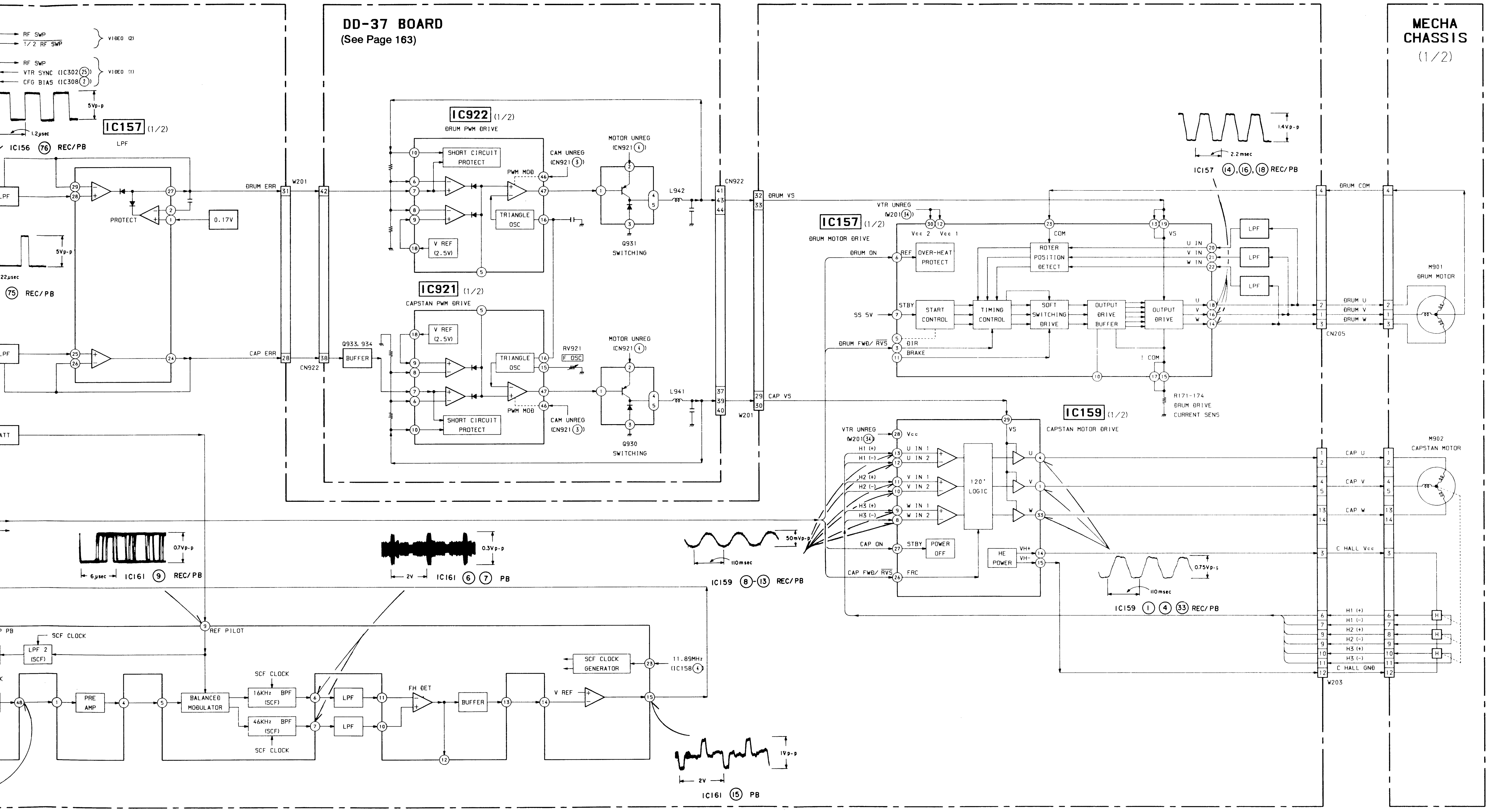
3-7. VIDEO (2) BLOCK DIAGRAM


VS-83 BOARD (See Page 113)
FOR CHECK
REC 1A
CN002
CN001
IC002 (1/2)
CH-1 REC AMP
Q005-Q008 (B) PB
4Vp-p
4V
VIDEO HEAD CH-1A
VIDEO HEAD CH-1B
CH-1A PB MUTING
Q003, 007
Q004, 008
CH-1B PB MUTING
PB M 1A
PB M 1B
DUMPING
Q011
CH-1A REC SW
Q012
CH-1B REC SW
REC 1B
CH-1A REC AMP
CH-1B REC AMP
VCA
LOGIC CONTROL
ATF SW
NORMAL
MULTI
6dB AMP
RP PB MODE
REC ATF
SP/LP
REC Y
REC AFM
REC C
IC001(42)
IC001,002 (6) REC
IC001,002 (2) REC
IC001,002 (39) REC/PB
0.4Vp-p
0.15Vp-p
0.22μsec
H
5Vp-p
PB M 1A
REC 1A
(IC156(94))
(IC156(98))
SYSCON
RP PB MODE
SP/LP
(IC156(3))
(IC156(84))
REC 1B
PB M 1B
(IC156(96))
(IC156(92))
IC003 (1/2)
REC Y LEVEL ADJ
REC C LEVEL ADJ
Y CONT
Q063, 064
REC EQ
CHROMA/AFM BAND REJECT
Q061
BUFFER
Q062
ME/HP SWITCH
IC004
2A CONT
1A CONT
2B CONT
1B CONT
IC003 (7) REC
0.5Vp-p
IC002 (1/2)
CH-1 PB AMP
CH-1A PB EQ ADJ
CH-1B PB EQ ADJ
CH-1A HEAD AMP
CH-1B HEAD AMP
9dB AMP
-6dB AMP
BPF
MIDDLE TUNE
PCM
MUTING
GCA
RF AGC
DETECT
12dB AMP
DOC DETECT
CH-1
CH-2
1A MT
1B MT
RF SWP
R/P 5V
(W201(26))
Vcc
Vcc EF
Vcc 1CH
Vcc 2CH
0.6Vp-p
IC002 (16) PB
REC AFM
PB RF
PB RF SYSCON
REC ATF
1/2 RF SWP
RF SWP
2V
IC002 (11) REC/PB
IC001 (1/2)
CH-2 PB AMP
CH-2B PB EQ ADJ
CH-2A PB EQ ADJ
CH-2B HEAD AMP
CH-2A HEAD AMP
2B MT
2A MT
PB RF CH-1
PB RF CH-2
REC 2B
PB M 2B
(IC156(91))
(IC156(95))
Q010
CH-2B REC SW
VIDEO HEAD CH-2B
VIDEO HEAD CH-2A
CH-2B PB MUTING
Q002, 006
Q001, 005
CH-2A PB MUTING
CH-2B REC AMP
CH-2A REC AMP
PB M 2B
PB M 2A
IC001 (1/2)
CH-2 REC AMP
Q009
CH-2A REC SW
IC002(42)
Q013
GAIN SWITCH
1/2 RF SWP
8.5Vp-p
7.53MHz
Q016 (C) REC
REC 2A
FLYING ERASE HEAD
Q016, 014
ERASE OSC
ME/HP
REC 2A
PB M 2A
FE ON
(IC153(18))
(IC156(97))
(IC156(93))
(IC156(4))
SYSCON

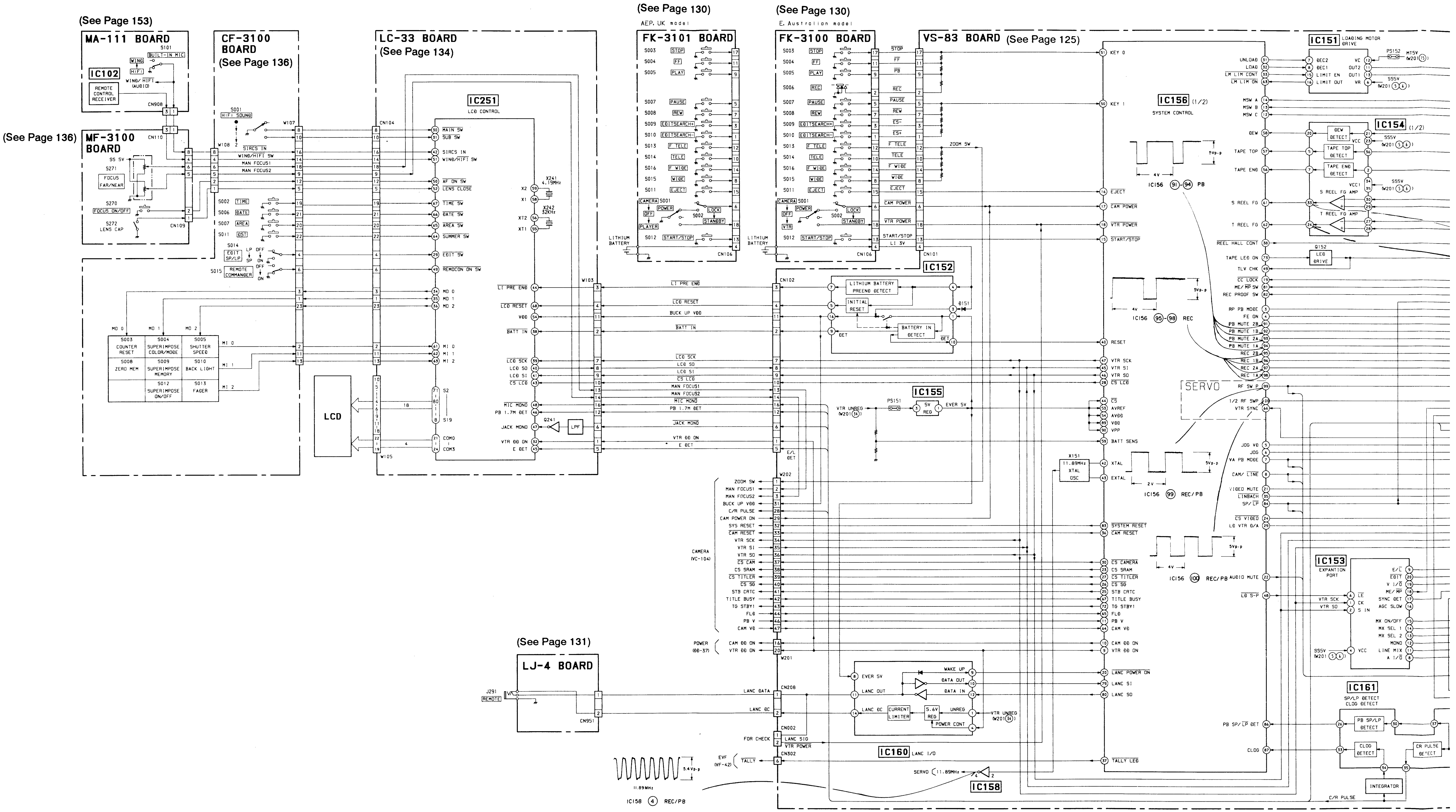

PB M 1A (IC156(94))
REC 1A (IC156(98))
SYSCON
Q011
CH-1A REC SW
REC 1A
IC001(42)
0.4Vp-p
0.22μsec
IC001,002 (6) REC
0.15Vp-p
H
IC001,002 (2) REC
REC Y
REC AFM
REC C
VCA
LOGIC CONTROL
ATF SW
NORMAL
MULTI
6dB AMP
RP PB MODE
REC ATF
SP/LP
RP PB MODE (IC156(3))
SP/LP (IC156(84))
Q012
CH-1B REC SW
REC 1B
5Vp-p
4V
IC001,002 (39) REC/PB
REC 1B (IC156(96))
PB M 1B (IC156(92))
IC003 (1/2)
REC Y LEVEL ADJ
Q063, 064
REC EQ
CHROMA/AFM BAND REJECT
Q061
BUFFER
Q062
ME/MP SWITCH
REC 5V (Q340)
Y RF (IC302(43))
VIDEO (1)
ME/MP (IC153(18))
Y CONT
REC C LEVEL ADJ
REC C RF (Q341)
IC004
2A CONT
1A CONT
2B CONT
1B CONT
2A CONT ((7))
1A CONT ((6))
2B CONT ((9))
1B CONT ((8))
VIDEO (1) (IC307)
Y CONT ((9))
1A MT ((12))
1B MT ((13))
2A MT ((18))
2B MT ((19))
VIDEO (1) (IC308)
PB RF
0.5Vp-p
IC003 (7) REC
CH-1A PB EQ ADJ
1A MT
CH-1A
PCM
CH-1B
MIDDLE TUNE
-6dB AMP
MUTING
GCA
12dB AMP
RF AGC
DETECT
CH-1
CH-2
60C DETECT
CH-1B PB EQ ADJ
1B MT
0.6Vp-p
IC002 (16) PB
REC AFM
PB RF
SYSCON
REC AFM
PB RF
AUDIO (AU-19)
CN303
REC ATF
1/2 RF SWP
RF SWP
PB RF
REC ATF (IC161(18))
1/2 RF SWP (IC156(100))
RF SWP (IC156(99))
SERVO
5Vp-p
2V
IC002 (11) REC/PB
CH-2B PB EQ ADJ
2B MT
CH-2B
CH-2A
CH-2A PB EQ ADJ
2A MT
PB RF CH-1
PB RF CH-2
PB RF OUT
FOR CHECK
CN002
PB M 2B (IC156(91))
REC 2B (IC156(95))
Q010
CH-2B REC SW
REC 2B
IC001,002 (39) REC/PB
IC001,002 (2) REC
IC001,002 (6) REC
IC002(42)
Q013
GAIN SWITCH
CH-2A REC SW
Q009
REC 2A
ME/MP (IC153(18))
REC 2A (IC156(97))
PB M 2A (IC156(93))
FE ON (IC156(4))

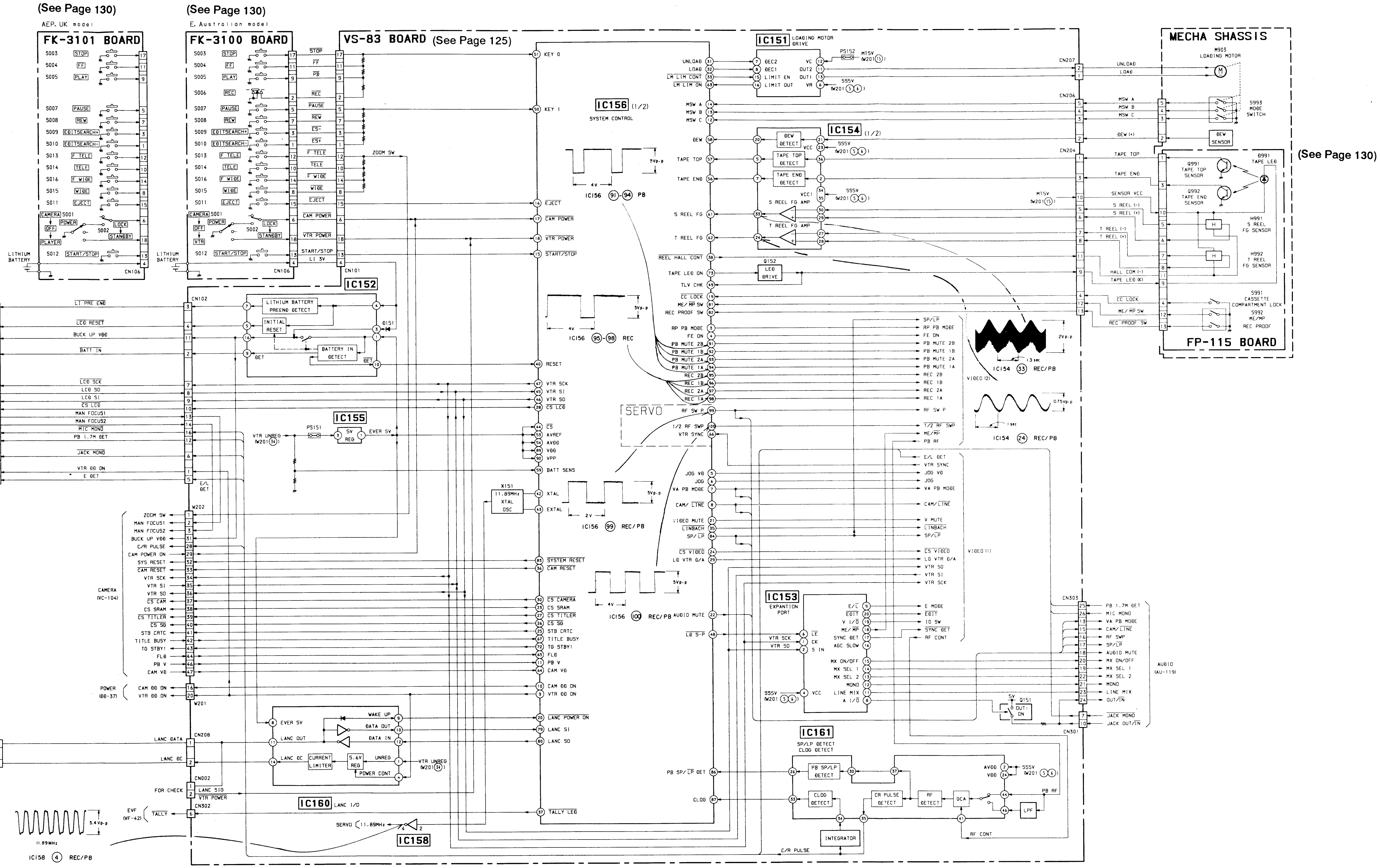
3-8. SERVO BLOCK DIAGRAM


MECHA CHASSIS (1/2)
DRUM
FG
PG
CAPSTAN FG
VS-83 BOARD
(See Page 125)
DD-37 BOARD
(See Page 163)
IC154
DRUM FG/ PG WAVE SHAPER
IC159 (1/2)
CAPSTAN FG WAVE SHAPER
IC156 (1/2)
SERVO
DRUM SERVO
CAPSTAN SERVO
SYSTEM CONTROL
IC157 (1/2)
LPF
PROTECT
0.17V
ATT
IC161 (1/2)
ATF SERVO
IC922 (1/2)
DRUM PWM DRIVE
IC921 (1/2)
CAPSTAN PWM DRIVE
SHORT CIRCUIT PROTECT
PWM MOD
TRIANGLE OSC
V REF (2.5V)
CAM UNREG (CN921 ③)
MOTOR UNREG (CN921 ④)
Q931 SWITCHING
Q930 SWITCHING
L942
L941
RV921 F OSC
Q933, 934 BUFFER
IC157 (1/2)
DRUM MOTOR DRIVE
DRUM ON
SS 5V
DRUM FWD/ RVS
VTR UNREG (W201 ㉞)
H1 (+)
H1 (-)
H2 (+)
H2 (-)
H3 (+)
H3 (-)
CAP ON
CAP FWD/ RVS
CN205
D FG
FG/PG COM
D PG
W203
CFG Vcc
CFG (+)
CFG GND
CFG (-)
CFG BIAS
SS 5V (W201 ⑤ ⑥)
2V
WAVE SHAPER
FOR CHECK
CN002
RF SWP
1/2 RF SWP
VIDEO (2)
VTR SYNC (IC302 ㉕)
CFG BIAS (IC308 ⑦)
VIDEO (1)
VTR SYNC
DRUM FG
DRUM PG
CAP FG
DRUM PWM
CAP PWM
ATF ERROR
REF PILOT
CFG HMS
EVER 5V (IC155 ①)
A VREF
A VDD
VDD
Vpp
DRUM ON
DRUM FWD/ RVS
CAP ON
CAP FWD/ RVS
RP PB MODE
DRUM ERR
CAP ERR
W201
CN922
DRUM VS
CAP VS
R/P PB
SCF CLOCK
REC ATF
PB RF
BUFFER
LPF 2 (SCF)
LPF 1 (SCF)
PRE AMP
BALANCED MODULATOR
16KHz BPF (SCF)
46KHz BPF (SCF)
FH DET
V REF
SCF CLOCK GENERATOR
11.89MHz (IC158 ④)
A Vdd
Vdd
(1) 80mVp-p
(2) 4.8Vp-p
3.7msec
(1) IC154 ⑱ (2) IC154 ⑲ REC/PB
(1) 20mVp-p
(2) 5Vp-p
22msec
(1) IC154 ⑪ (2) IC154 ⑧ REC/PB
2.5Vp-p
H
IC156 ㊿ REC/PB
5Vp-p
1.2μsec
IC156 ⑯ REC/PB
5Vp-p
22μsec
IC156 ⑮ REC/PB
40mVp-p
1.1msec
IC159 ㉒ REC/PB
5Vp-p
1.1msec
IC159 ㉕ REC/PB
0.6Vp-p
6μsec
IC161 ⑱ REC
8mVp-p
6μsec
IC161 ㊽ PB
0.7Vp-p
6μsec
IC161 ⑨ REC/PB
0.3Vp-p
2V
IC161 ⑥ ⑦ PB
50mVp-p
110msec
IC159 ⑧-⑬ REC/PB
1Vp-p
2V
IC161 ⑮ PB


DD-37 BOARD
(See Page 163)
MECHA CHASSIS
(1/2)
IC922 (1/2)
DRUM PWM DRIVE
IC921 (1/2)
CAPSTAN PWM DRIVE
IC157 (1/2)
LPF
IC157 (1/2)
DRUM MOTOR DRIVE
IC159 (1/2)
CAPSTAN MOTOR DRIVE
RF SWP
1/2 RF SWP
VIDEO (2)
RF SWP
VTR SYNC (IC302 ㉕)
CFG BIAS (IC308 ②)
VIDEO (1)
5Vp-p
1.2μsec
IC156 ⑯ REC/PB
PROTECT
0.17V
5Vp-p
22μsec
⑮ REC/PB
DRUM ERR
CAP ERR
W201
CN922
SHORT CIRCUIT PROTECT
PWM MOD
TRIANGLE OSC
V REF (2.5V)
CAM UNREG (CN921 ③)
MOTOR UNREG (CN921 ④)
Q931 SWITCHING
Q930 SWITCHING
L942
L941
Q933, 934 BUFFER
RV921 F OSC
DRUM VS
CAP VS
1.4Vp-p
2.2msec
IC157 ⑭,⑯,⑱ REC/PB
VTR UNREG (W201 ㉞)
Vcc 2
Vcc 1
COM
VS
DRUM ON
REF
OVER-HEAT PROTECT
ROTOR POSITION DETECT
U IN
V IN
W IN
LPF
SS 5V
STBY
START CONTROL
TIMING CONTROL
SOFT SWITCHING DRIVE
OUTPUT DRIVE BUFFER
OUTPUT DRIVE
DRUM FWD/ RVS
DIR
BRAKE
COM
R171-174 DRUM DRIVE CURRENT SENS
DRUM COM
DRUM U
DRUM V
DRUM W
CN205
M901 DRUM MOTOR
VTR UNREG (W201 ㉞)
Vcc
H1 (+)
H1 (-)
H2 (+)
H2 (-)
H3 (+)
H3 (-)
U IN 1
U IN 2
V IN 1
V IN 2
W IN 1
W IN 2
120° LOGIC
CAP ON
POWER OFF
HE POWER
VH+
VH-
CAP FWD/ RVS
FRC
CAP U
CAP V
CAP W
C HALL Vcc
C HALL GND
W203
M902 CAPSTAN MOTOR
50mVp-p
110msec
IC159 ⑧-⑬ REC/PB
0.75Vp-p
110msec
IC159 ① ④ ㉝ REC/PB
0.7Vp-p
6μsec
IC161 ⑨ REC/PB
0.3Vp-p
2V
IC161 ⑥ ⑦ PB
ATT
REF PILOT
P PB
SCF CLOCK
LPF 2 (SCF)
PRE AMP
BALANCED MODULATOR
SCF CLOCK
16KHz BPF (SCF)
46KHz BPF (SCF)
LPF
FH DET
BUFFER
V REF
SCF CLOCK GENERATOR
11.89MHz (IC158 ④)
1Vp-p
2V
IC161 ⑮ PB

3-9. SYSTEM CONTROL BLOCK DIAGRAM


(See Page 153)
MA-111 BOARD
IC102
REMOTE CONTROL RECEIVER
(See Page 136)
MF-3100 BOARD
CF-3100 BOARD
(See Page 136)
LC-33 BOARD
(See Page 134)
IC251
LCD CONTROL
LCD
(See Page 130)
AEP, UK model
FK-3101 BOARD
(See Page 130)
E. Australian model
FK-3100 BOARD
LITHIUM BATTERY
VS-83 BOARD
(See Page 125)
IC156 (1/2)
SYSTEM CONTROL
IC151
LOADING MOTOR DRIVE
IC154 (1/2)
IC152
LITHIUM BATTERY PREEND DETECT
INITIAL RESET
BATTERY IN DETECT
IC155
5V REG
X151 11.89MHz XTAL OSC
SERVO
IC153
EXPANTION PORT
IC161
SP/LP DETECT CLOG DETECT
PB SP/LP DETECT
CLOG DETECT
CR PULSE DETECT
INTEGRATOR
IC160
LANC I/O
IC158
CURRENT LIMITER
5.6V REG
(See Page 131)
LJ-4 BOARD
J291 REMOTE
CAMERA (VC-104)
POWER (BB-37)
EVF (VF-42)
IC156 (91)-(94) PB
IC156 (95)-(98) REC
IC156 (99) REC/PB
IC156 (100) REC/PB
IC158 (4) REC/PB
11.89MHz
5.4Vp-p
ZOOM SW
LANC DATA
LANC DC
TALLY


(See Page 130)
AEP, UK model
FK-3101 BOARD
(See Page 130)
E, Australian model
FK-3100 BOARD
VS-83 BOARD (See Page 125)
IC151 LOADING MOTOR DRIVE
MECHA SHASSIS
M903 LOADING MOTOR
S993 MODE SWITCH
DEW SENSOR
(See Page 130)
IC156 (1/2) SYSTEM CONTROL
IC154 (1/2)
IC156 91-94 PB
IC156 95-98 REC
IC154 33 REC/PB
IC154 24 REC/PB
FP-115 BOARD
IC152
LITHIUM BATTERY PREEND DETECT
INITIAL RESET
BATTERY IN DETECT
IC155
SERVO
X151 11.89MHz XTAL OSC
IC156 99 REC/PB
IC156 100 REC/PB
IC153 EXPANTION PORT
CAMERA (VC-104)
POWER (DD-37)
AUDIO (AU-119)
IC161 SP/LP DETECT CLOG DETECT
INTEGRATOR
IC160 LANC I/O
IC158
IC158 4 REC/PB
11.89MHz
EVF (VF-42)
LITHIUM BATTERY

3-10. SYSTEM CONTROL MICROPROCESSOR PIN FUNCTION (IC156 ON VS-83 BOARD: CXP80624-236Q/244Q)

Pin No.	Signal	I/O	Function
1	CAP ON	O	Capstan driver ON/OFF control signal. "H" when capstan ON.
2	CAP FWD/RVS	O	Capstan rotating direction control signal. "H": FWD, "L":RVS.
3	RP PB MODE	O	REC/PB select signal of REC/PB amplifier (IC001 and IC002 on VS-83 board) and ATF servo IC (IC161 on VS-83 board). "H": PB.
4	FE ON	O	Flying erase oscillation ON/OFF control signal. "L": oscillation.
5	JOG VD	O	False VD signal to be inserted into playback video signal during variable speed playback.
6	JOG	O	Variable speed/normal speed playback select signal of video circuit. "H" when variable speed playback.
7	VA PB MODE	O	Video/audio circuit REC/PB select signal. "H": PB.
8	CAM/LINE	O	Camera input/line input select signal. "H" when camera input.
9	VTR DD ON	O	VTR DC-DC converter control signal. "H" when power supply switch is in "VTR" or "camera" position.
10	CAM DD ON	O	Camera DC-DC converter control signal. "H" when power supply switch is in "camera" position.
11	PBV	O	V sync as reference to character generator, communication and LANC period. Lock to CAM VD (Pin (64)) when CAM. Lock to VTR sync (Pin (66)) when VTR.
12	MSW C	I	MODE switch input
13	MSW B	I	
14	MSW A	I	

	EJECT	USE	LS	GL	REC/PB	READY
MSW A	L	H	L	L	H	H
MSW B	L	H	H	H	L	L
MSW C	H	L	H	L	H	L

Pin No.	Signal	I/O	Function
15	START/STOP	I	Start/stop switch input. "L" when switch ON.
16	EJECT	I	Eject switch input. "L" when switch ON.
17	CAM POWER	I	Power supply switch input. "L": camera position.
18	VTR POWER	I	Power supply switch input. "L": VTR or PLAYER position.
19	CC LOC K	I	Cassette compartment lock switch input. "L": lock.
20	LANC POWER ON	I	Power ON signal input from wired remote control. "L" when power switch pressed.
21	VIDEO MUTE	O	Video output mute signal. "H": mute.
22	AUDIO MUTE	O	Audio output mute signal. "H": mute.
23	CS SRAM	O	Chip select signal to title memory (S RAM). (IC710 on VC-104 board)
24	CS VIDEO	O	Chip select signal to Y process IC. (IC302 on VS-83 board)
25	STB CRTC	O	Strobe signal to character generator. (IC703 on VC-104 board)
26	CS SG	O	Chip select signal to sync generator. (IC704 on VC-104 board)
27	CS TITLER	O	Chip select signal to titler. (IC711 on VC-104 board)
28	CS LCD	O	Chip select signal to LCD microprocessor. (IC251 on LC-33 board)
29	LD VTR D/A	O	Load signal to video circuit EVR. (IC307 on VS-83 board)
30	CS CAMERA	O	Chip select signal to camera microprocessor. (IC709 on VC-104 board)
31	UNLOAD	O	Loading motor control signal. "H" or "H" pulse when unloading.
32	LOAD	O	Loading motor control signal. "H" or "H" pulse when loading.
33	LM LIM CONT	O	Loading motor limiter control signal. Temporary "H" when loading.
34	DRUM ON	O	Drum motor ON/OFF signal. "H" (approx. 1.3V) when drum ON.
35	LINBACH	O	Normally "L"
36	CAM RESET	O	Camera microprocessor reset signal.
37	TALLY LED	O	Tally LED ON/OFF signal.
38	REEL HALL CONT	O	Reel FG sensor (HALL element) power supply control signal.
39	MP		Connected to GND.
40	RESET	I	Reset signal. "L" when reset.
41	VSS		GND
42	XTAL	O	11.718 MHz clock oscillation circuit.
43	EXTAL	I	
44	CS		Connected to +5V.

*1: E, Australian model only.

Pin No.	Signal	I/O	Function
45	VTR SI	I	Serial data input
46	VTR SO	O	Serial data output
47	VTR SCK	O	Serial clock output
48	LD S-P	O	Load signal to extension data output port.
49	TLV CHC	I	Tape LED monitor signal. key 1.
50	KEY 1	I	Key input signal. 0V: PAUSE, 0.8V: REW, 1.4V: ES–, 2.1V: ES+ and 5V: no input.
51	KEY 0	I	Key input signal. 0V: STOP, 0.8V: FF, 1.4V: PB, 2.1V: REC*1 and 5V: no input.
52	SVSS		+5V power supply
53	AVREF		Analog port reference voltage. Connected to +5V.
54	AVDD		Analog port power supply (5V)
55	NC		Connected to GND.
56	TAPE END	I	Tape end detection signal. Normally "L". "H" pulse: tape end.
57	TAPE TOP	I	Tape top detection signal. Normally "L", "H" pulse: tape top.
58	$\overline{\mathrm{DEW}}$	I	Dew condensation detection signal. "L" when dew condensation.
59	BATT SENSE	I	Battery voltage input for battery end detection. 1/2 divided by PB157.
60	ATF ERROR	I	ATF error, ATF lock error input.
61	S REEL FG	I	S reel FG signal input.
62	T REEL FG	I	T reel FG signal input.
63	LM LIM ON	I	Loading motor limiter ON detection signal. Normally "H", "L" when limiter ON.
64	CAM VD	I	VD signal from camera circuit sync generator. V period pulse.
65	FLD	I	FIELD signal from camera circuit sync generator. 2V period pulse.
66	VTR SYNC	I	Composite sync signal separated from REC/PB Y signal.
67	TITLE BUSY	I	Title busy signal. Normally "L".
68	DRUM PG	I	Drum PG signal input. For drum phase servo. 26.7 msec period "H" pulse.
69	DRUM FG	I	Drum FG signal input. For drum speed servo. 4.4 msec period pulse.
70	CAP FG	I	Capstan FG signal input. For capstan speed servo. Approx. 1145.5 Hz when REC/PB.
71	NC		N.C.
72	TG STBY 1	O	Timing generator standby 1 signal. Normally "L".
73	TAPE LED ON	O	Tape LED ON/OFF signal. 200 msec period "H" pulse when REC/PB.
74	DRUM FWD/$\overline{\mathrm{RVS}}$	O	Drum rotating control signal. Normally "H".
75	CAP PWM	O	Capstan error signal output. 20.15 μsec PWM signal.
76	DRUM PWM	O	Drum error signal output. 20.15 μsec PWM signal.
77	CFG HMS	I	Capstan FG signal input. For tape counter.
78	NC		Connected to +5V.
79	LANC SI	I	Control L serial data input.
80	LANC SO	O	Control L serial data output.
81	ME/$\overline{\mathrm{MP}}$ SW	I	ME/MP switch input. "L": MP, "H": ME.
82	$\overline{\mathrm{REC\ PROOF\ SW}}$	I	Erasure protection switch input. "L" when REC prohibit.
83	$\overline{\mathrm{SYSTEM\ RESET}}$	O	Reset signal output. Normally "H", "L" when reset.
84	SP/$\overline{\mathrm{LP}}$	O	SP/LP select signal. "L": LP.
85	REF PILOT	O	ATF servo reference pilot signal. Synchronized with drum rotation to output by selecting four frequencies. f1=101.0 kHz, f2=117.2 kHz, f3=162.8 kHz and f4=146.5 kHz.
86	PB SP/$\overline{\mathrm{LP}}$ DET	I	Discriminates PB tape REC mode when CUE/REVIEW/FF and REW. "L": LP.
87	CLOG	I	Head clog detection signal. "L" when no trouble.
88	VSS		GND
89	VDD		+5 power supply
90	VPP		+5 power supply

Pin No.	Signal	I/O	Function
91	PB MUTE 2B	O	Control signal for protecting crosstalk from the other three heads during PB. 4V period pulse when PB/REC ("L": active head only during PB/REC). "L" when other cases.
92	PB MUTE 1B	O	
93	PB MUTE 2A	O	
94	PB MUTE 1A	O	
95	REC 2B	O	REC head (1A, 1B, 2A and 2B) select control signal. 4V period pulse when REC ("L": head only during REC). "H" when other cases.
96	REC 1B	O	
97	REC 2A	O	
98	REC 1A	O	
99	RF SWP	O	RF switching pulse signal. 25 Hz, 50% duty pulse.
100	1/2 RF SWP	O	1/2 RF switching pulse signal. 12.5 Hz, 50% duty pulse.

3-11. LCD MICROPROCESSOR PIN FUNCTION (IC251 ON LC-33 BOARD: μPD75304GF)

Pin No.	Signal	I/O	Function	
1	S12	O	LCD SEG Pin drive signal. Four value pulses of 0V, 1.6V, 3.2V and 4.8V.	
2	S13	O		
3	S14	O		
4	S15	O		
5	S16	O		
6	S17	O		
7	S18	O		
8	S19	O		
9	S20		Not used.	
10	S21			
11	S22			
12	S23			
13	S24			
14	S25			
15	S26			
16	S27			
17	S28			
18	S29			
19	S30			
20	S31			
21	COM0	O	LCD COM Pin drive signal. Four value pulses of 0V, 1.6V, 3.2V and 4.8V.	
22	COM1	O		
23	COM2	O		
24	COM3	O		
25	BIAS		4.8V	LCD drive voltage
26	VLC0		4.8V	
27	VLC1		1.6V	
28	VLC2		3.2V	
29	$\overline{\text{EDIT SW}}$	I	EDIT/REC MODE switch input. "L" when EDIT ON/LP.	
30	$\overline{\text{MAIN SW}}$	I	HiFi SOUND switch input. "L": 1 (main).	
31	$\overline{\text{SUB SW}}$	I	HiFi SOUND switch input. "L": 2 (sub).	
32	VTR DD ON	I	VTR DC-DC converter control signal input. "H" when power supply ON.	
33	GND		GND	
34	MO0	O	Key matrix output V period "L" pulse output only when corresponding key pressed. "Hiz" when other cases.	
35	MO1	O		
36	MO2	O		
37	NC		N.C.	
38	BATT IN	I	Main battery detection input. "L" when main battery is mounted.	
39	LCD SCK	I	Serial data transfer clock	
40	LCD SO	O	Serial data output	
41	LCD SI	I	Serial data input	
42	SIRCS IN	I	Infrared rays remote control signal input.	
43	$\overline{\text{CS LCD}}$	I	Chip select signal from system control microprocessor (IC156 on VS-83 board).	
44	$\overline{\text{LI PRE END}}$	I	Lithium battery preend detection input. "L" when no lithium battery or wasted.	
45	E DET	I	Normal/Hi8 discrimination input. "H" when Hi8 tape playback.	
46	PB 1.7M DET	I	Normal/stereo discrimination input. "H" when AFM stereo tape playback.	
47	JACK MONO	I	External I/O jack monaural/stereo discrimination input. "H" : monaural. (No jack inserted in right terminal.)	
48	$\overline{\text{MIC MONO}}$	I	External microphone monaural/stereo discrimination input. "L" when monaural microphone used.	
49	$\overline{\text{RIMOCON ON SW}}$	I	Remote control switch input. "L": input.	
50	$\overline{\text{AF ON SW}}$	I	Focus ON/OFF key input. "L" when key pressed.	
51	WIND/$\overline{\text{HIFI}}$ SW	I	Wind sound decrease switch input. "L": HiFi.	
52	LENS CLOSE	I	Lens cover open/close input. "L" when closed.	
53	COMP OREC		Not used.	
54	VDD		+5V power supply	
55	XT1		32 kHz crystal oscillation circuit (for clock).	
56	XT2			
57	NC		Connected to +5V.	
58	X1		4.19 MHz crystal oscillation circuit (for system clock).	
59	X2			
60	1991/$\overline{\text{1992}}$		Connected to +5V.	
61	MI0	I	Key matrix input V period "L" pulse output when corresponding key is pressed. "H" when other cases.	
62	MI1	I		
63	MI2	I		
64	$\overline{\text{SUMMER SW}}$	I	Summer key input. "L" when key is pressed.	
65	$\overline{\text{AREA SW}}$	I	Area key input. "L" when key is pressed.	
66	$\overline{\text{DATE SW}}$	I	Date key input. "L" when key is pressed.	
67	$\overline{\text{TIME SW}}$	I	Time key input. "L" when key is pressed.	
68	$\overline{\text{LCD RESET}}$	I	LCD microprocessor reset signal input. Normally "H", "L" when reset.	
69	S0		Not used.	
70	S1		Not used.	
71	S2	O	LCD SEG Pin drive signal. Four value pulses of 0V, 1.6V, 3.2V and 4.8V.	
72	S3	O		
73	S4	O		
74	S5	O		
75	S6	O		
76	S7	O		
77	S8	O		
78	S9	O		
79	S10	O		
80	S11	O		

3-12. INTERFACE

3-12-1. System Control – Video/Audio Block Interface (VS-83 BOARD)

NAME	I/O	No.	VTR MODE															CAMERA MODE					
			STOP	FF	REW	FR SEARCH		PB	PICTURE SEARCH		PB·PAUSE	FRAME	SLOW	SHUTTLE EDIT *17		REC *18	REC *18 PAUSE	STAND BY	REC	EDIT SEARCH		REC REVIEW	
						CUE	REVIEW		CUE	REVIEW				FWD	REV					FWD	RVS	FWD	RVS
SP/$\overline{\text{LP}}$	O	IC156 (84)	*1	H	H	*2	*2	*2	*2	*2	*1	*1	*1	*2	*2	*19	H/L	H/L	*19	*2	*2	*2	*2
VA PB MODE	O	IC156 ⑦	L	L	L	H	H	H	H	H	H	H	H	H	H	L	L	L	L	H	H	H	H
AUDIO MUTE *13	O	IC156 ㉒	L	L	L	H	H	L	H	H	H	H	H	H	H	L	L	L	L	H	H	L	H
VIDEO MUTE	O	IC156 ㉑	*14	*14	*14	*15	*15	*15	*15	*15	*15	*15	*15	*15	*15	*14	*14	L	L	*15	*15	*15	*15
CAM/$\overline{\text{LINE}}$	O	IC156 ⑧	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	H	H	L	L	L	L
JOG VD	O	IC156 ⑤	L	L	L	*5	*5	L	*5	*5	*5	*5	*5	L	*5	L	L	L	L	L	*5	L	*5
RP PB MODE	O	IC156 ③	H	H	H	H	H	H	H	H	H	H	H	H	H	L	H	H	L	H	H	H	H
$\overline{\text{FE ON}}$	O	IC156 ④	H	H	H	H	H	H	H	H	H	H	H	H	H	L	H	H	L	H	H	H	H
$\overline{\text{1/2 RF SWP}}$	O	IC156 (100)	H	*6	*6	*6	*6	*6	*6	*6	*6	*6	*6	*6	*6	*6	*6	*6	*6	*6	*6	*6	*6
RF SWP	O	IC156 (99)	L	*7	*7	*7	*7	*7	*7	*7	*7	*7	*7	*7	*7	*7	*7	*7	*7	*7	*7	*7	*7
PB MUTE 2B	O	IC156 (91)	L	*8	*8	*8	*8	*8	*8	*8	*8	*8	*8	*8	*8	*16	*16	*16	*16	*8	*8	*8	*8
PB MUTE 1B	O	IC156 (92)																					
PB MUTE 2A	O	IC156 (93)																					
PB MUTE 1A	O	IC156 (94)																					
$\overline{\text{LINBACH}}$	O	IC156 ㉟	*20	*20	*20	L	L	*20	L	L	L	L	L	L	L	*20	*20	L	L	L	L	L	L

NAME	I/O	No.	VTR MODE															CAMERA MODE					
			STOP	FF	REW	FR SEARCH		PB	PICTURE SERACH		PB· PAUSE	FRAME	SLOW	SHUTTLE EDIT*17		REC*18	REC*18 PAUSE	STAND BY	REC	EDIT SEARCH		REC REVIEW	
						CUE	REVIEW		CUE	REVIEW				FWD	REV					FWD	RVS	FWD	RVS
$\overline{\text{REC2B}}$	O	IC156 (95)	H	H	H	H	H	H	H	H	H	H	H	H	H	*9	H	H	*9	H	H	H	H
$\overline{\text{REC1B}}$	O	IC156 (96)																					
$\overline{\text{REC2A}}$	O	IC156 (97)																					
$\overline{\text{REC1A}}$	O	IC156 (98)																					
$\overline{\text{CS VIDEO}}$	O	IC156 ㉔	V period "L" pulse																				
$\overline{\text{LD VTR D/A}}$	O	IC156 ㉙	V period 'H" pulse																				
VTR SI	I	IC156 ㊺	V period "L" pulse																				
VTR SO	O	IC156 ㊻	V period pulse train																				
VTR SCK	I	IC156 ㊼	V period "H" pulse																				
PB SP/$\overline{\text{LP}}$ DET	I	IC156 (86)	L	*10	*10	*10	*10	L	*10	*10	*10			L	*10	H	H	H	H	L	*10	L	*10
CLOG	I	IC156 (87)	H	*11	*11	*11	*11	*11	*11	*11	*11	*11	*11	*11	*11	H	*11	*11	H	*11	*11	*11	*11
VTR SYNC	I	IC156 (66)	*12	*12	*12	*12	*12	*12	*12	*12	*12	*12	*12	*12	*12	*12	*12	*12	*12	*12	*12	*12	*12

*1. Outputs discrimination result of the mode just before. "H": SP mode, "L": LP mode.

*2. Outputs discrimination result of the playback tape. "H" : SP mode, "L": LP mode.

*5. Palse VD signal

*6. 12.5 Hz duty 50% pulse (synchronized with drum rotation)

*7. 25 Hz duty 50% pulse (synchronized with drum rotation)

*8. See time chart 1.

*9. See time chart 2.

*10. "H": SP recording area on tape. "L": LP recording area.

*11. "H": no recording area or drop out area on tape. Head clog detection input.

*12. Composite sync signal input separated from line input video signal, camera video signal or playback video signal. (polarity +)

*13. "H" during load/unload when camera mode.

*14. "L" when external input (video) present. "H" when other cases.

*15. "H" when tape no signal. "L" when other cases.

*16. See time chart 1.

*17. Edit search pressed when playback pause mode.

*18. E, Australian model only.

*19. By REC MODE switch. "H": SP mode, "L": LP mode.

*20. "H" when no video signal. "L" when other cases.

3-12-2. System Control – Servo Block Interface

NAME	I/O	No.	VTR MODE															CAMERA MODE					
			STOP	FF	REW	FR SEARCH		PB	PICTURE SEARCH		PB·PAUSE	FRAME	SLOW	SHUTTLE EDIT*13		REC*14	REC*14 PAUSE	STAND BY	REC	EDIT SEARCH		REC REVIEW	
						CUE	REVIEW		CUE	REVIEW				FWD	RVS					FWD	RVS	FWD	RVS
T.REEL FG	I	IC156(62)	–	*1	*1	*1	*1	*1	*1	*1	*1	*1	*1	*1	*1	*1	–	–	*1	*1	*1	*1	*1
S.REEL FG	I	IC156(61)	–	*1	*1	*1	*1	*1	*1	*1	*1	*1	*1	*1	*1	*1	–	–	*1	*1	*1	*1	*1
ATF ERROR	I	IC156(60)	–	*2	*2	*2	*2	*2	*2	*2	*2	*2	*2	*2	*2	*2	*2	*2	*2	*2	*2	*2	*2
DRUM PG	I	IC156(68)	–	*3	*3	*3	*3	*3	*3	*3	*3	*3	*3	*3	*3	*3	*3	*3	*3	*3	*3	*3	*3
DRUM FG	I	IC156(69)	–	*4	*4	*4	*4	*4	*4	*4	*4	*4	*4	*4	*4	*4	*4	*4	*4	*4	*4	*4	*4
CAP FG/ CFG HMS	I	IC156(70), (77)	–	*5	*5	*5	*5	*5	*5	*5	*5	*5	*5	*5	*5	*5	*5	*5	*5	*5	*5	*5	*5
CAP ON	O	IC156①	L	H	H	H	H	H	H	H	L	*8	*8	*15	*15	H	L	L	H	H	H	H	H
REF PILOT	O	IC156(85)	*7	*6	*6	*6	*6	*6	*6	*6	*6	*6	*6	*6	*6	*6	*6	*6	*6	*6	*6	*6	*6
RP PB MODE	O	IC156③	H	H	H	H	H	H	H	H	H	H	H	H	H	L	H	H	L	H	H	H	H
DRUM FWD/RVS *10	O	IC156(74)	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H
CAP FWD/ RVS	O	IC156②	L	H	L	H	L	H	H	L	L	*8	*8	H	L	H	L	L	H	H	L	H	L
DRUM PWM	O	IC156(76)	*9	*9	*9	*9	*9	*9	*9	*9	*9	*9	*9	*9	*9	*9	*9	*9	*9	*9	*9	*9	*9
CAP PWM	O	IC156(75)	L	*9	*9	*9	*9	*9	*9	*9	L	*9	*9	*9	*9	*9	L	L	*9	*9	*9	*9	*9
LM LIM CONT *11	O	IC156㉝	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
DRUM ON *12	O	IC156㉞	L	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H

*1. Pulse input amplitude modulated by reel rotation. (200 msec period when REC/PB)

*2. ATF error voltage input

*3. One PG pulse input per one drum rotation, approx. 37.5 Hz.

*4. Six FG pulses input per one drum rotation, approx. 225 Hz.

*5. 360 FG pulses input per one capstan rotation. Approx. 1145.5 Hz when REC/PB (SP).

*6. Four frequencies output synchronized with drum rotation. f1=101.0 kHz, f2=117.2 kHz, f3=162.8 kHz and f4=146.5 kHz

*7. f2 (117.2 kHz) output

*8. "H" pulse when tape run.

*9. 21.5 μsec period PWM signal

*10. Normally "H". Temporary "L" when load/unload (drum reverse rotation).

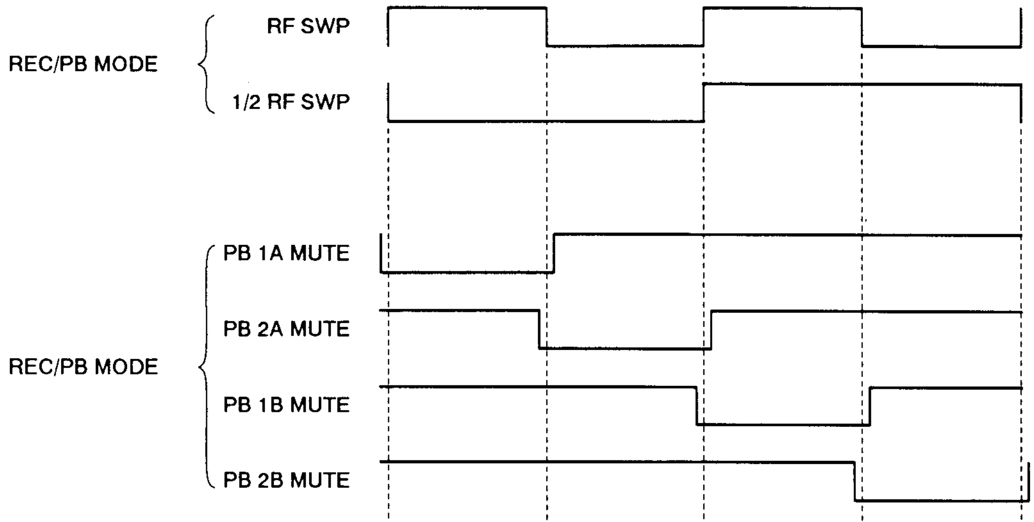
*11. Temporary "H" when cassette loading (finger catch protection).

*12. "H": approx. 1.3 Vdc

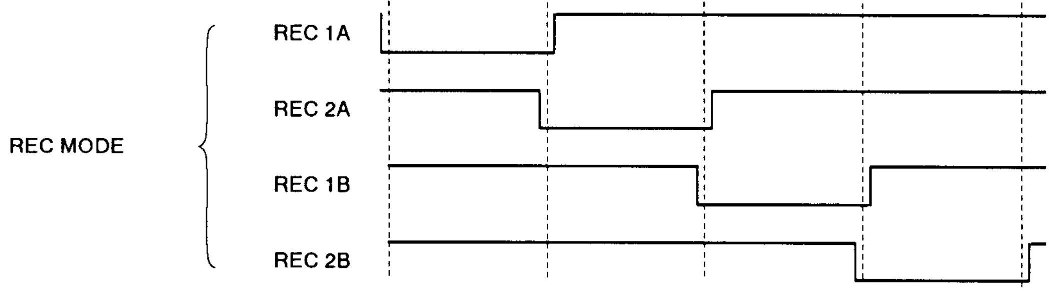
*13. Edit search pressed when playback pause mode.

*14. E, Australian model only.

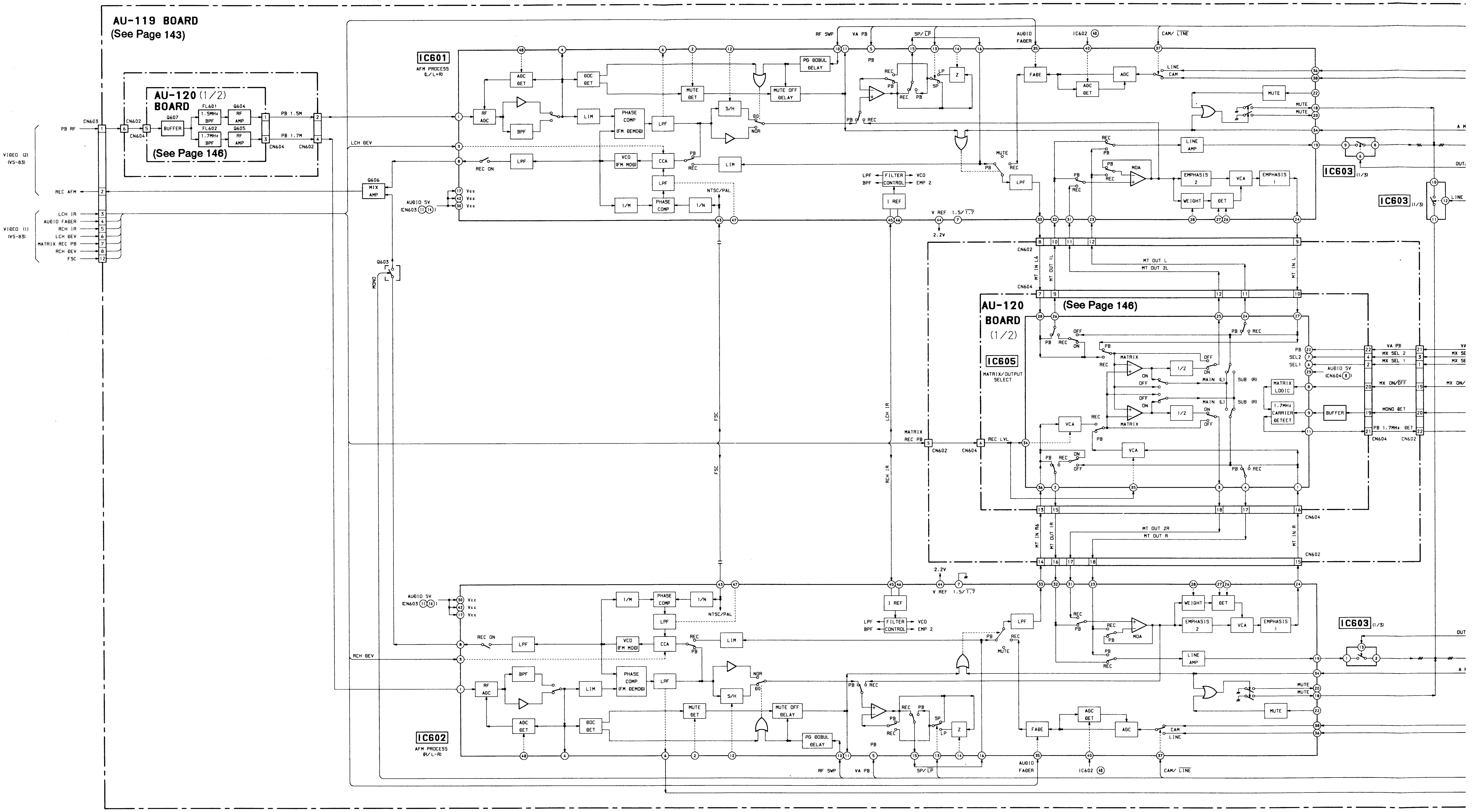
TIME CHART 1

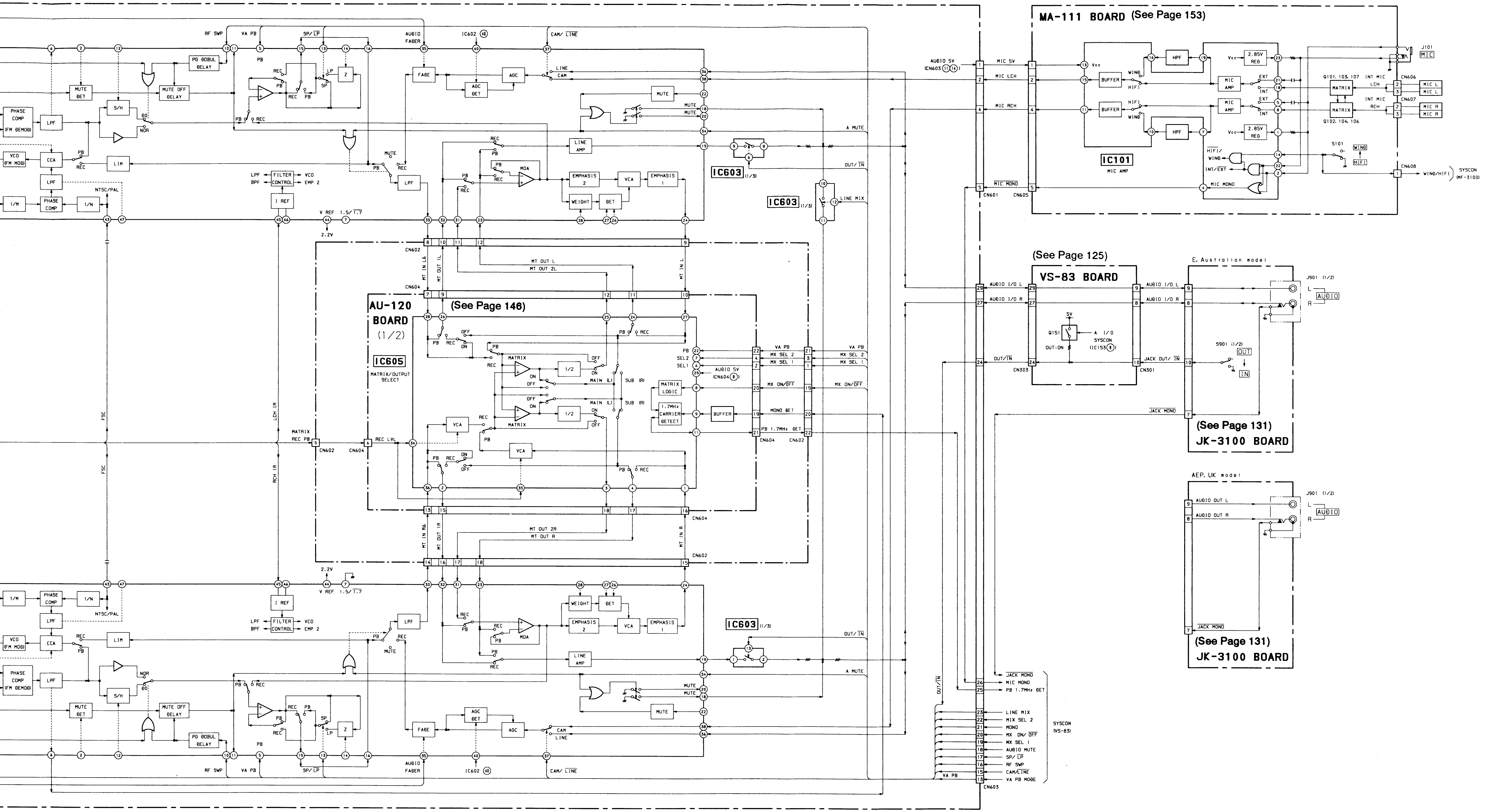

REC/PB MODE
RF SWP
1/2 RF SWP
REC/PB MODE
PB 1A MUTE
PB 2A MUTE
PB 1B MUTE
PB 2B MUTE

TIME CHART 2

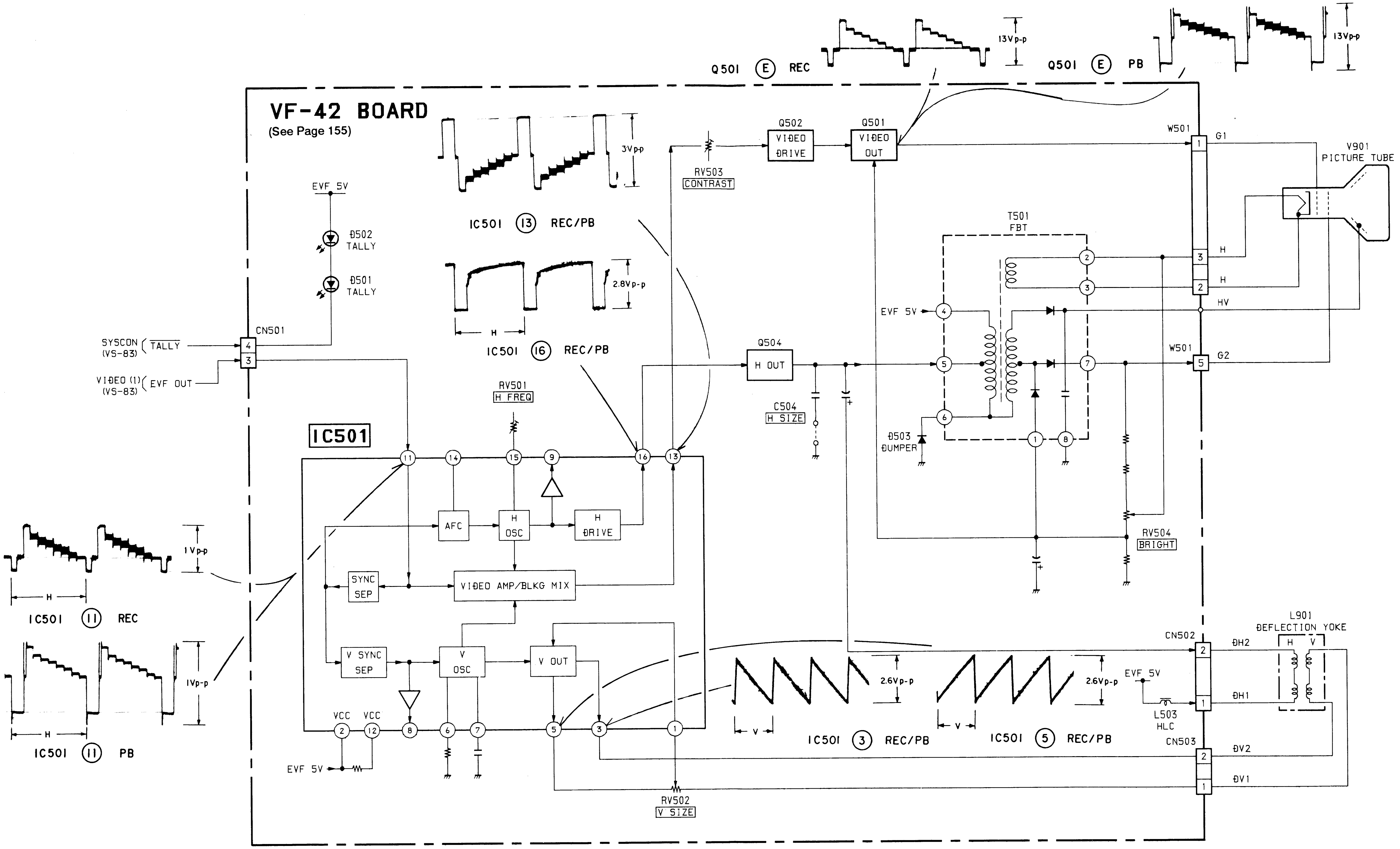

REC MODE
REC 1A
REC 2A
REC 1B
REC 2B

3-13. AUDIO BLOCK DIAGRAM

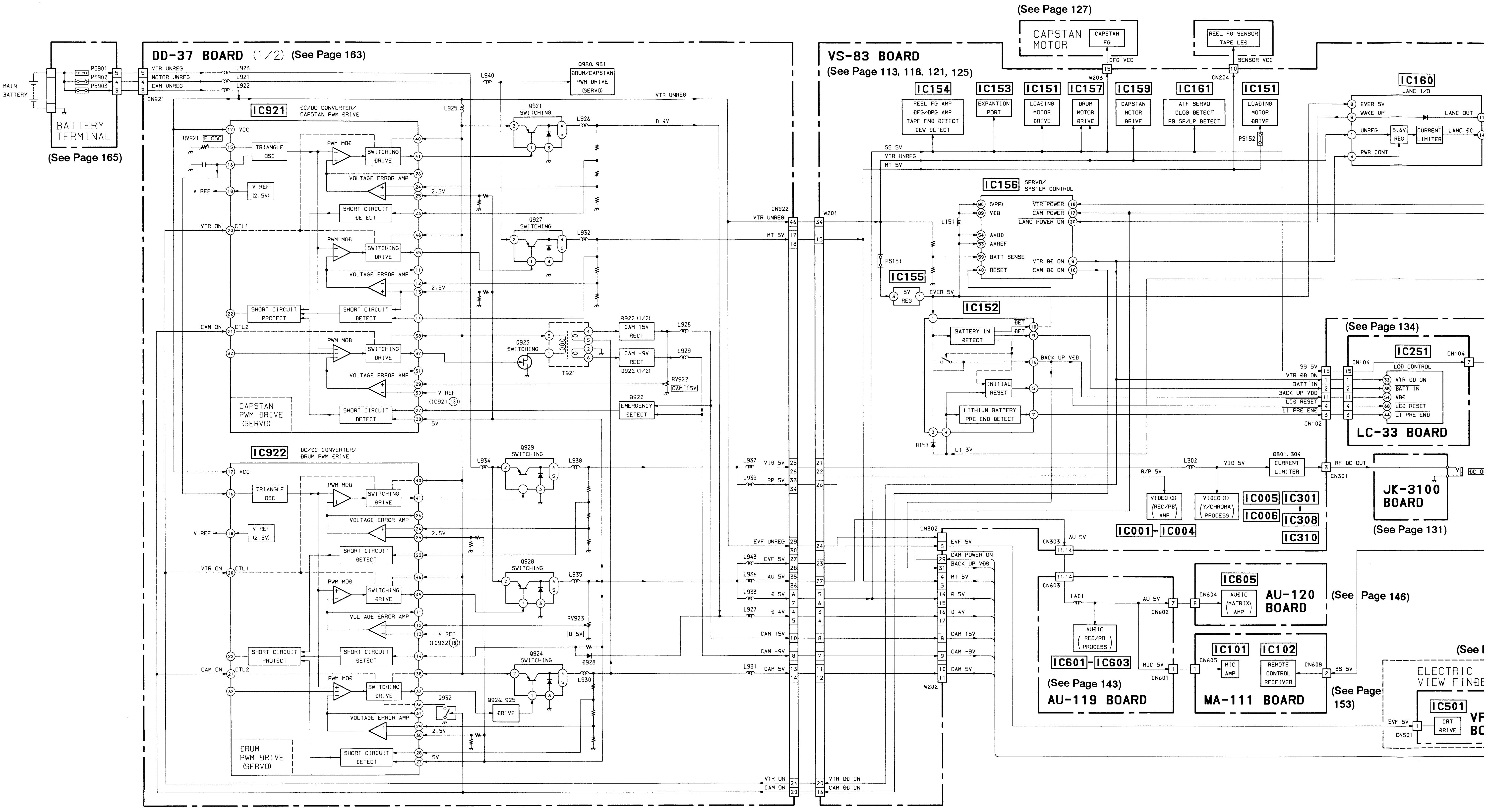

AU-119 BOARD
(See Page 143)
AU-120 (1/2)
BOARD
(See Page 146)
CN603
CN602
CN604
Q607
BUFFER
FL601
1.5MHz BPF
FL602
1.7MHz BPF
Q604
RF AMP
Q605
RF AMP
PB 1.5M
PB 1.7M
PB RF
VIDEO (2)
(VS-83)
REC AFM
VIDEO (1)
(VS-83)
LCH IR
AUDIO FADER
RCH IR
LCH DEV
RCH DEV
MATRIX REC PB
FSC
Q606
MIX AMP
Q603
MONO
LCH DEV
RCH DEV
AUDIO 5V
(CN603 ⑪⑭)
Vcc
IC601
AFM PROCESS
(L/L+R)
IC602
AFM PROCESS
(R/L-R)
RF AGC
AGC DET
DOC DET
BPF
LIM
PHASE COMP
(FM DEMOD)
LPF
S/H
MUTE DET
MUTE OFF DELAY
PG DOBUL DELAY
VCO
(FM MOD)
CCA
1/M
1/N
PHASE COMP
NTSC/PAL
REC ON
NOR
BO
RF SWP
VA PB
SP/LP
AUDIO FADER
IC602 ㊽
CAM/LINE
FADE
AGC
MUTE
LINE
CAM
LPF
BPF
FILTER CONTROL
VCO
EMP 2
I REF
V REF 1.5/1.7
2.2V
LINE AMP
MOA
EMPHASIS 2
EMPHASIS 1
VCA
WEIGHT
DET
IC603 (1/3)
OUT
LINE
FSC
LCH IR
RCH IR
MATRIX REC PB
MT IN L6
MT OUT 1L
MT OUT L
MT OUT 2L
MT IN L
MT IN R6
MT OUT 1R
MT OUT 2R
MT OUT R
MT IN R
AU-120
BOARD
(1/2)
(See Page 146)
IC605
MATRIX/OUTPUT SELECT
REC LVL
MATRIX
1/2
MAIN (L)
MAIN (R)
SUB (R)
MATRIX LOGIC
1.7MHz CARRIER DETECT
BUFFER
SEL2
SEL1
AUDIO 5V
(CN604 ⑧)
VA PB
MX SEL 2
MX SEL 1
MX ON/OFF
MONO DET
PB 1.7MHz DET
ON
OFF
PB
REC
SP
LP
Z

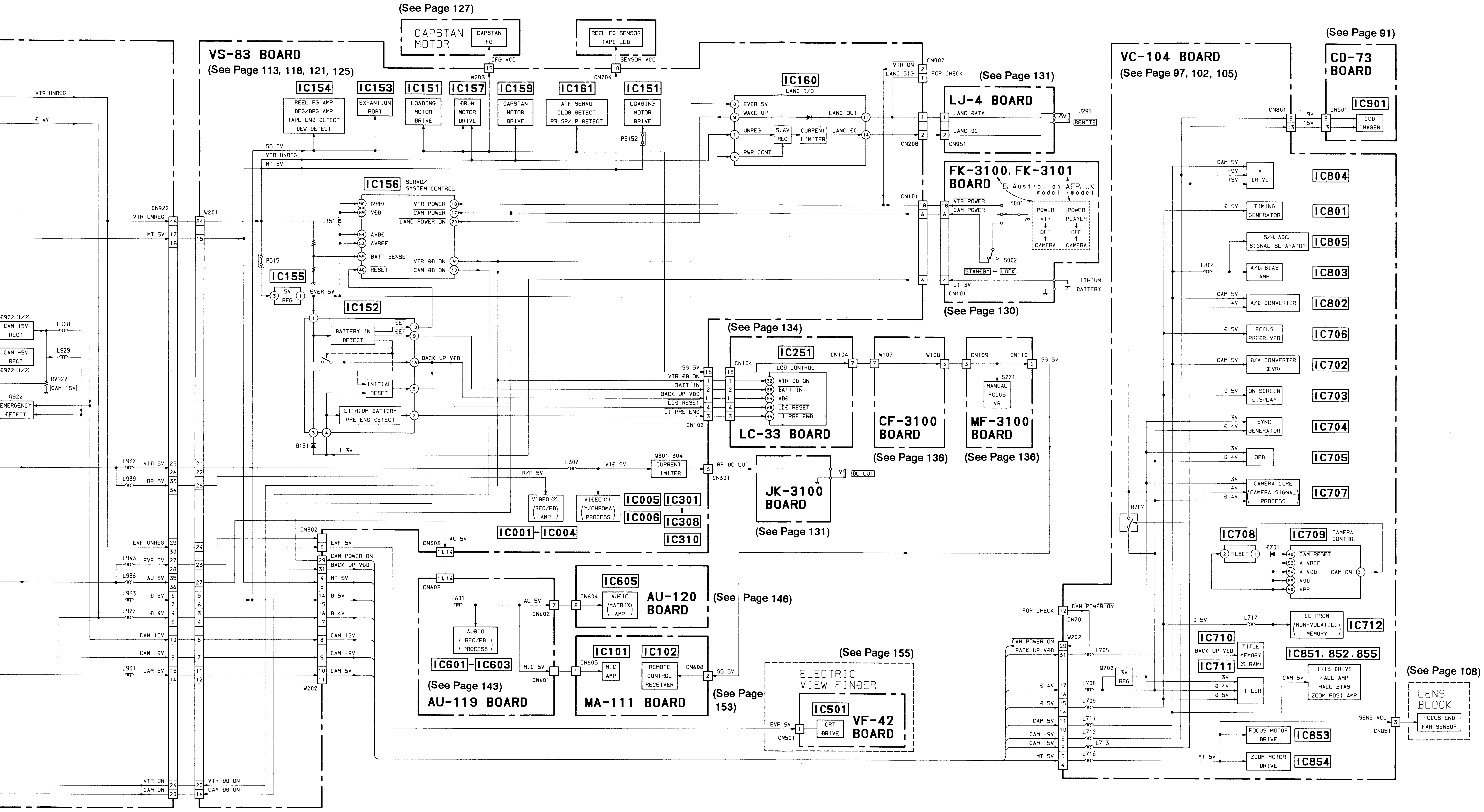

MA-111 BOARD (See Page 153)
IC101
MIC AMP
BUFFER
HPF
MIC AMP
2.85V REG
MATRIX
INT MIC LCH
INT MIC RCH
Q101, 103, 107
Q102, 104, 106
S101
WIND
HIFI
J101
MIC
CN606
CN607
CN608
MIC L
MIC R
WIND/HIFI
SYSCON (MF-3100)
MIC 5V
MIC LCH
MIC RCH
MIC MONO
CN601
CN605
AUDIO 5V (CN603 ⑪⑭)
(See Page 125)
VS-83 BOARD
Q151
5V
A I/O SYSCON (IC153 ⑧)
OUT:ON
AUDIO I/O L
AUDIO I/O R
OUT/IN
JACK OUT/IN
CN303
CN301
E. Australian model
J901 (1/2)
AUDIO
S901 (1/2)
OUT
IN
JACK MONO
(See Page 131)
JK-3100 BOARD
AEP, UK model
AUDIO OUT L
AUDIO OUT R
AU-120 BOARD (1/2)
(See Page 146)
IC605
MATRIX/OUTPUT SELECT
MATRIX LOGIC
1.7MHz CARRIER DETECT
BUFFER
VCA
MATRIX
1/2
MAIN (L)
SUB (R)
REC LVL
MT OUT L
MT OUT 2L
MT OUT 2R
MT OUT R
MT IN L
MT IN R
CN602
CN604
VA PB
MX SEL 2
MX SEL 1
MX ON/OFF
MONO DET
PB 1.7MHz DET
AUDIO 5V (CN604 ⑧)
IC603 (1/3)
LINE MIX
A MUTE
OUT/IN
RF SWP
VA PB
SP/LP
AUDIO FADER
IC602 ㊵
CAM/LINE
PG DOBUL DELAY
MUTE DET
MUTE OFF DELAY
PHASE COMP
(FM DEMOD)
VCO (FM MOD)
CCA
LPF
LIM
S/H
1/M
1/N
NTSC/PAL
FADE
AGC
AGC DET
LINE AMP
MUTE
NOA
EMPHASIS 2
EMPHASIS 1
VCA
WEIGHT
DET
FILTER CONTROL
I REF
V REF 1.5/1.7
2.2V
LCH IR
RCH IR
FSC
MATRIX REC PB
JACK MONO
MIC MONO
PB 1.7MHz DET
LINE MIX
MIX SEL 2
MONO
MX ON/OFF
MX SEL 1
AUDIO MUTE
SP/LP
RF SWP
CAM/LINE
VA PB MODE
SYSCON (VS-83)
CN603

3-14. EVF BLOCK DIAGRAM


VF-42 BOARD
(See Page 155)
EVF 5V
Đ502 TALLY
Đ501 TALLY
CN501
SYSCON (VS-83) TALLY
VIĐEO (1) (VS-83) EVF OUT
3Vp-p
IC501 (13) REC/PB
2.8Vp-p
H
IC501 (16) REC/PB
RV501 H FREQ
IC501
AFC
H OSC
H ĐRIVE
SYNC SEP
VIĐEO AMP/BLKG MIX
V SYNC SEP
V OSC
V OUT
VCC VCC
EVF 5V
RV502 V SIZE
1Vp-p
H
IC501 (11) REC
1Vp-p
H
IC501 (11) PB
Q501 (E) REC
13Vp-p
Q501 (E) PB
13Vp-p
RV503 CONTRAST
Q502 VIĐEO ĐRIVE
Q501 VIĐEO OUT
W501
G1
V901 PICTURE TUBE
T501 FBT
EVF 5V
H
H
HV
Q504 H OUT
C504 H SIZE
Đ503 ĐUMPER
W501
G2
RV504 BRIGHT
2.6Vp-p
V
IC501 (3) REC/PB
2.6Vp-p
V
IC501 (5) REC/PB
EVF 5V
L503 HLC
CN502
ĐH2
ĐH1
CN503
ĐV2
ĐV1
L901 ĐEFLECTION YOKE
H V

3-15. POWER BLOCK DIAGRAM

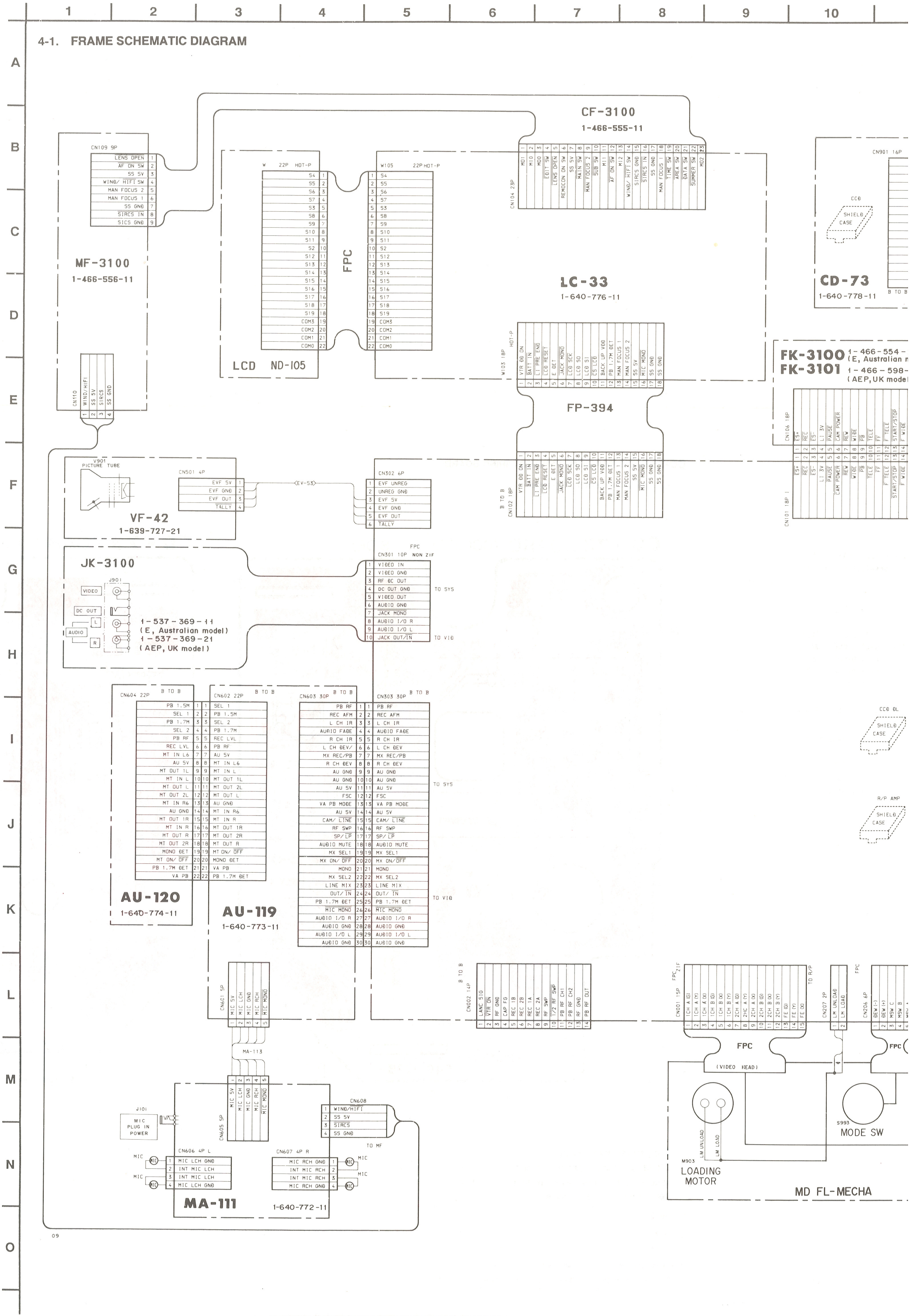

(See Page 127)
CAPSTAN MOTOR
CAPSTAN FG
REEL FG SENSOR
TAPE LED
MAIN BATTERY
PS901
PS902
PS903
BATTERY TERMINAL
(See Page 165)
DD-37 BOARD (1/2) (See Page 163)
VTR UNREG
MOTOR UNREG
CAM UNREG
CN921
L923
L921
L922
L940
Q930, 931
DRUM/CAPSTAN PWM DRIVE (SERVO)
IC921
DC/DC CONVERTER/ CAPSTAN PWM DRIVE
L925
Q921 SWITCHING
L926
D 4V
RV921
F OSC
TRIANGLE OSC
PWM MOD
SWITCHING DRIVE
VOLTAGE ERROR AMP
V REF
V REF (2.5V)
2.5V
SHORT CIRCUIT DETECT
VTR ON
CTL1
Q927 SWITCHING
L932
SHORT CIRCUIT PROTECT
CAM ON
CTL2
Q922 (1/2)
CAM 15V RECT
L928
Q923 SWITCHING
T921
CAM -9V RECT
L929
RV922
CAM 15V
Q922
EMERGENCY DETECT
V REF (IC921 ⑱)
5V
CAPSTAN PWM DRIVE (SERVO)
IC922
DC/DC CONVERTER/ DRUM PWM DRIVE
L934
Q929 SWITCHING
L938
Q928 SWITCHING
L935
RV923
D 5V
V REF (IC922 ⑱)
Q924 SWITCHING
D928
L930
Q932
Q926, 925
DRIVE
DRUM PWM DRIVE (SERVO)
CN922
MT 5V
L937
VIO 5V
L939
RP 5V
EVF UNREG
L943
EVF 5V
L936
AU 5V
L933
D 5V
L927
D 4V
CAM 15V
CAM -9V
L931
CAM 5V
VTR ON
CAM ON
VS-83 BOARD
(See Page 113, 118, 121, 125)
W201
W202
W203
CFG VCC
CN204
SENSOR VCC
IC154
REEL FG AMP DFG/DPG AMP TAPE END DETECT DEW DETECT
IC153
EXPANTION PORT
IC151
LOADING MOTOR DRIVE
IC157
DRUM MOTOR DRIVE
IC159
CAPSTAN MOTOR DRIVE
IC161
ATF SERVO CLOG DETECT PB SP/LP DETECT
PS152
SS 5V
IC156
SERVO/ SYSTEM CONTROL
(VPP)
VDD
AVDD
AVREF
BATT SENSE
RESET
VTR POWER
CAM POWER
LANC POWER ON
VTR DD ON
CAM DD ON
L151
PS151
IC155
5V REG
EVER 5V
IC152
BATTERY IN DETECT
DET
BACK UP VDD
INITIAL RESET
LITHIUM BATTERY PRE END DETECT
D151
LI 3V
IC160
LANC I/O
EVER 5V
WAKE UP
UNREG
5.6V REG
CURRENT LIMITER
PWR CONT
LANC OUT
LANC DC
(See Page 134)
IC251
LCD CONTROL
CN104
VTR DD ON
BATT IN
BACK UP VDD
LCD RESET
LI PRE END
CN102
LC-33 BOARD
L302
R/P 5V
VIDEO (2) (REC/PB) AMP
VIDEO (1) (Y/CHROMA) PROCESS
Q301, 304
CURRENT LIMITER
RF DC OUT
CN301
IC005
IC301
IC006
IC308
IC310
IC001-IC004
JK-3100 BOARD
(See Page 131)
CN302
CAM POWER ON
CN303
CN603
L601
AUDIO REC/PB PROCESS
IC601-IC603
(See Page 143)
AU-119 BOARD
CN602
MIC 5V
CN601
IC605
CN604
AUDIO (MATRIX) AMP
AU-120 BOARD
(See Page 146)
IC101
IC102
CN605
MIC AMP
REMOTE CONTROL RECEIVER
CN608
MA-111 BOARD
(See Page 153)
ELECTRIC VIEW FINDE
IC501
CRT DRIVE
CN501
VTR DD ON
CAM DD ON

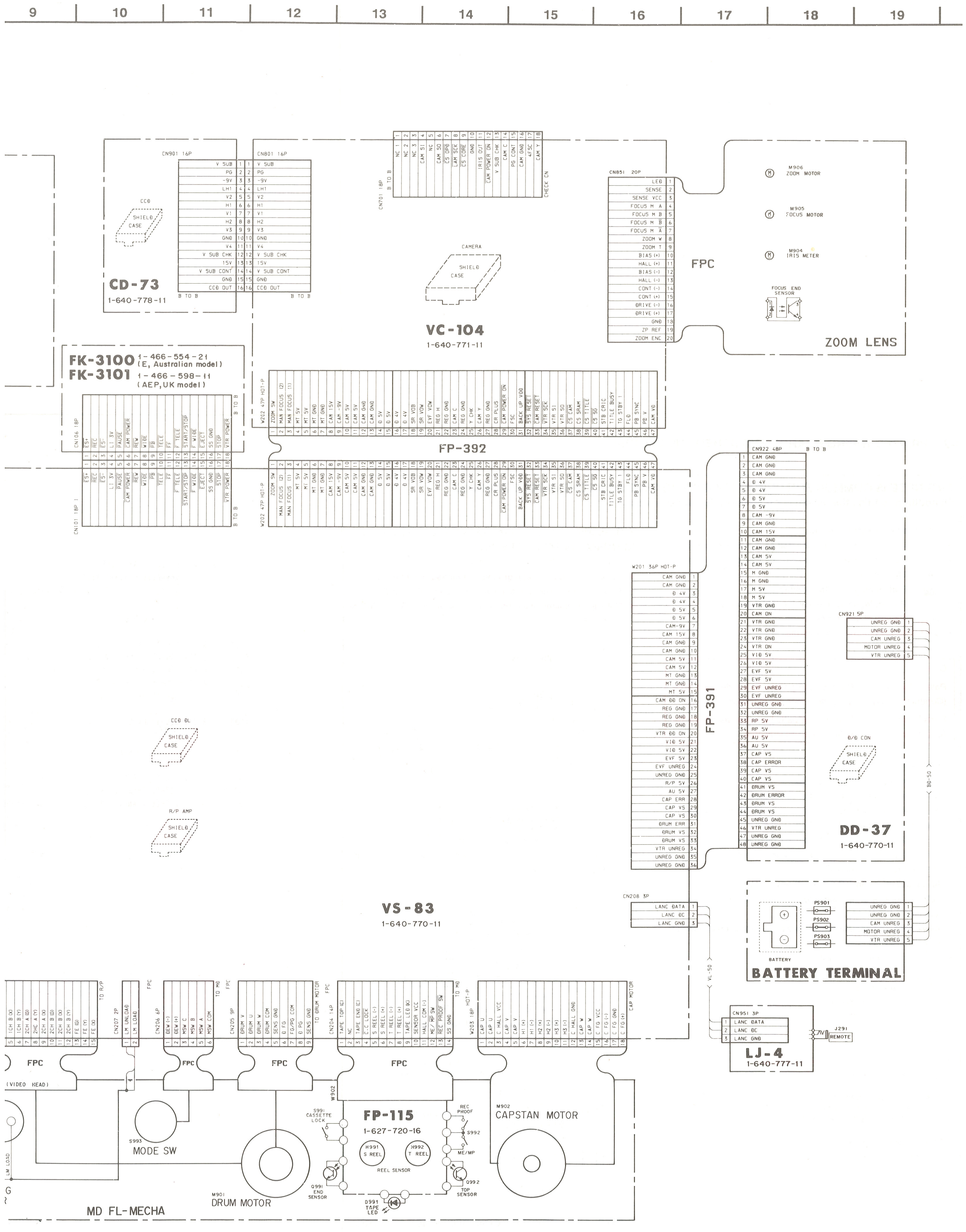

(See Page 127)
CAPSTAN MOTOR
CAPSTAN FG
CFG VCC
REEL FG SENSOR
TAPE LED
SENSOR VCC
VS-83 BOARD
(See Page 113, 118, 121, 125)
IC154
REEL FG AMP
DFG/DPG AMP
TAPE END DETECT
DEW DETECT
IC153
EXPANTION PORT
IC151
LOADING MOTOR DRIVE
IC157
DRUM MOTOR DRIVE
IC159
CAPSTAN MOTOR DRIVE
IC161
ATF SERVO
CLOG DETECT
PB SP/LP DETECT
IC151
LOADING MOTOR DRIVE
IC160
LANC I/O
EVER 5V
WAKE UP
UNREG
5.6V REG
CURRENT LIMITER
LANC OUT
LANC DC
PWR CONT
IC156
SERVO/SYSTEM CONTROL
VTR POWER
CAM POWER
LANC POWER ON
AVDD
AVREF
BATT SENSE
RESET
VTR DD ON
CAM DD ON
IC155
5V REG
EVER 5V
IC152
BATTERY IN DETECT
DET
BACK UP VDD
INITIAL RESET
LITHIUM BATTERY PRE END DETECT
LI 3V
VTR UNREG
D 4V
MT 5V
SS 5V
CN922
W201
CAM 15V RECT
CAM -9V RECT
EMERGENCY DETECT
RV922
VIO 5V
RP 5V
EVF UNREG
EVF 5V
AU 5V
D 5V
D 4V
CAM 15V
CAM -9V
CAM 5V
VTR ON
CAM ON
VTR DD ON
CAM DD ON
W202
CN302
CAM POWER ON
BACK UP VDD
(See Page 131)
LJ-4 BOARD
LANC DATA
LANC DC
J291
REMOTE
VTR ON
LANC SIG
FOR CHECK
CN002
CN208
CN951
FK-3100, FK-3101 BOARD
E, Australian model
AEP, UK model
VTR POWER
CAM POWER
S001
POWER VTR OFF CAMERA
POWER PLAYER OFF CAMERA
S002
STANDBY ← LOCK
LI 3V
LITHIUM BATTERY
(See Page 130)
(See Page 134)
IC251
LCD CONTROL
VTR DD ON
BATT IN
VDD
LCD RESET
LI PRE END
LC-33 BOARD
CF-3100 BOARD
(See Page 136)
MF-3100 BOARD
S271
MANUAL FOCUS VR
(See Page 136)
L302
VIO 5V
Q301, 304 CURRENT LIMITER
RF DC OUT
JK-3100 BOARD
DC OUT
(See Page 131)
R/P 5V
VIDEO (2) (REC/PB) AMP
VIDEO (1) (Y/CHROMA) PROCESS
IC005
IC006
IC301
IC308
IC310
IC001-IC004
AU 5V
IC605
AUDIO (MATRIX) AMP
AU-120 BOARD
(See Page 146)
L601
AUDIO (REC/PB PROCESS)
IC601-IC603
(See Page 143)
AU-119 BOARD
MIC 5V
IC101
MIC AMP
IC102
REMOTE CONTROL RECEIVER
MA-111 BOARD
(See Page 153)
SS 5V
(See Page 155)
ELECTRIC VIEW FINDER
IC501
CRT DRIVE
VF-42 BOARD
EVF 5V
VC-104 BOARD
(See Page 97, 102, 105)
(See Page 91)
CD-73 BOARD
IC901
CCD IMAGER
-9V
15V
V DRIVE
IC804
TIMING GENERATOR
IC801
S/H, AGC, SIGNAL SEPARATOR
IC805
A/D BIAS AMP
IC803
A/D CONVERTER
IC802
FOCUS PREDRIVER
IC706
D/A CONVERTER (EVR)
IC702
ON SCREEN DISPLAY
IC703
SYNC GENERATOR
IC704
OPD
IC705
CAMERA CORE CAMERA SIGNAL PROCESS
IC707
Q707
IC708
RESET
IC709
CAMERA CONTROL
CAM RESET
A VREF
A VDD
VDD
VPP
CAM ON
EE PROM (NON-VOLATILE) MEMORY
IC712
IC710
TITLE MEMORY (S-RAM)
IC711
TITLER
Q702
3V REG
IC851, 852, 855
IRIS DRIVE
HALL AMP
HALL BIAS
ZOOM POSI AMP
FOR CHECK
CAM POWER ON
BACK UP VDD
CN701
W202
FOCUS MOTOR DRIVE
IC853
ZOOM MOTOR DRIVE
IC854
SENS VCC
CN851
(See Page 108)
LENS BLOCK
FOCUS END FAR SENSOR

SECTION 4

PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

4-1. FRAME SCHEMATIC DIAGRAM


1 2 3 4 5 6 7 8 9 10
A B C D E F G H I J K L M N O
CF-3100
1-466-555-11
CN104 23P
MD1
MIO
MDD
EDIT SW
LENS OPEN
REMOCON ON SW
SS 5V
MAIN SW
MAN FOCUS 2
SUB SW
MI1
AF ON SW
MI2
WIND/HIFI SW
SIRCS GND
SIRCS IN
SS GND
MAN FOCUS 1
TIME SW
AREA SW
DATA SW
SUMMER SW
MD2
MF-3100
1-466-556-11
CN109 9P
LENS OPEN
AF ON SW
SS 5V
WIND/HIFI SW
MAN FOCUS 2
MAN FOCUS 1
SS GND
SIRCS IN
SICS GND
CN110
WIND/HIFI
SS 5V
SIRCS
SS GND
W 22P HOT-P
W105 22P HOT-P
S4 S5 S6 S7 S3 S8 S9 S10 S11 S2 S12 S13 S14 S15 S16 S17 S18 S19
COM3 COM2 COM1 COM0
FPC
LCD ND-105
LC-33
1-640-776-11
W103 18P HOT-P
VTR GO ON
BATT IN
LI PRE END
LCD RESET
E DET
JACK MONO
LCD SCK
LCD SO
LCD SI
CS LCD
BACK UP VDD
PB 1.7M DET
MAN FOCUS 1
MAN FOCUS 2
SS 5V
MIC MONO
SS GND
FP-394
CN102 18P
B TO B
CD-73
1-640-778-11
CN901 16P
CCD SHIELD CASE
B TO B
FK-3100 1-466-554-
(E, Australian
FK-3101 1-466-598-
(AEP, UK model
CN106 18P
CN101 18P
ES*
REC
ES
LI 3V
PAUSE
CAM POWER
REW
WIDE
PB
TELE
FF
F TELE
START/STOP
F WIDE
V901 PICTURE TUBE
CN501 4P
EVF 5V
EVF GND
EVF OUT
TALLY
(EV-53)
CN302 6P
EVF UNREG
UNREG GND
EVF 5V
EVF GND
EVF OUT
TALLY
VF-42
1-639-727-21
JK-3100
J901
VIDEO
DC OUT
L
AUDIO
R
1-537-369-11
(E, Australian model)
1-537-369-21
(AEP, UK model)
FPC
CN301 10P NON ZIF
VIDEO IN
VIDEO GND
RF DC OUT
DC OUT GND
VIDEO OUT
AUDIO GND
JACK MONO
AUDIO I/O R
AUDIO I/O L
JACK OUT/IN
TO SYS
TO VID
CN604 22P B TO B
PB 1.5M
SEL 1
PB 1.7M
SEL 2
PB RF
REC LVL
MT IN L6
AU 5V
MT OUT 1L
MT IN L
MT OUT L
MT OUT 2L
MT IN R6
AU GND
MT OUT 1R
MT IN R
MT OUT R
MT OUT 2R
MONO DET
MT ON/OFF
PB 1.7M DET
VA PB
CN602 22P B TO B
CN603 30P B TO B
CN303 30P B TO B
PB RF
REC AFM
L CH IR
AUDIO FADE
R CH IR
L CH DEV
MX REC/PB
R CH DEV
AU GND
AU 5V
FSC
VA PB MODE
CAM/LINE
RF SWP
SP/LP
AUDIO MUTE
MX SEL1
MX ON/OFF
MONO
MX SEL2
LINE MIX
OUT/IN
PB 1.7M DET
MIC MONO
AUDIO I/O R
AUDIO GND
AUDIO I/O L
TO SYS
TO VID
AU-120
1-640-774-11
AU-119
1-640-773-11
CN601 5P
MIC 5V
MIC LCH
MIC GND
MIC RCH
MIC MONO
MA-113
CN605 5P
CN608
WIND/HIFI
SS 5V
SIRCS
SS GND
TO MF
J101
MIC PLUG IN POWER
CN606 4P L
MIC LCH GND
INT MIC LCH
INT MIC LCH
MIC LCH GND
CN607 4P R
MIC RCH GND
INT MIC RCH
INT MIC RCH
MIC RCH GND
MIC
MA-111
1-640-772-11
B TO B
CN002 14P
LANC SIG
VTR ON
RF GND
CAP FG
REC 1B
REC 2B
REC 1A
REC 2A
RF SWP
1/2 RF SWP
PB RF CH1
PB RF CH2
RF GND
PB RF OUT
FPC ZIF
CN001 15P
1CH A (G)
1CH A (Y)
1CH A (X)
1CH B (G)
1CH B (Y)
1CH B (X)
2CH A (G)
2CH A (Y)
2CH A (X)
2CH B (G)
2CH B (Y)
2CH B (X)
FE (G)
FE (Y)
FE (X)
TO R/P
CN207 2P
LM UNLOAD
LM LOAD
FPC
CN206 6P
DEW (-)
DEW (+)
MSW C
MSW B
FPC
(VIDEO HEAD)
M903
LOADING MOTOR
LM UNLOAD
LM LOAD
S993
MODE SW
MD FL-MECHA
CCD BL SHIELD CASE
R/P AMP SHIELD CASE
09


9
10
11
12
13
14
15
16
17
18
19
CD-73
1-640-778-11
CCD SHIELD CASE
CN901 16P
CN801 16P
B TO B
CN701 18P B TO B
CHECK CN
VC-104
1-640-771-11
CAMERA SHIELD CASE
CN851 20P
FPC
ZOOM LENS
M906 ZOOM MOTOR
M905 FOCUS MOTOR
M904 IRIS METER
FOCUS END SENSOR
FK-3100 1-466-554-21 (E, Australian model)
FK-3101 1-466-598-11 (AEP,UK model)
CN106 18P
CN101 18P
W202 47P HOT-P
FP-392
CN922 48P
W201 36P HOT-P
FP-391
CN921 5P
D/D CON SHIELD CASE
BD-50
DD-37
1-640-770-11
CCD DL SHIELD CASE
R/P AMP SHIELD CASE
VS-83
1-640-770-11
CN208 3P
PS901
PS902
PS903
BATTERY
BATTERY TERMINAL
VL-50
CN951 3P
J291 REMOTE
LJ-4
1-640-777-11
CN207 2P
CN206 6P
CN205 9P
CN204 14P
W203 18P HOT-P
TO R/P
TO MD
TO DRUM MOTOR
CAP MOTOR
FPC
(VIDEO HEAD)
S993 MODE SW
M901 DRUM MOTOR
MD FL-MECHA
W902
FP-115
1-627-720-16
S991 CASSETTE LOCK
H991 S REEL
H992 T REEL
REEL SENSOR
Q991 END SENSOR
D991 TAPE LED
REC PROOF
S992
ME/MP
Q992 TOP SENSOR
M902 CAPSTAN MOTOR

4-2. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.

(In addition to this , the necessary note is printed in each block.)

- **For printed wiring boards.**
- ○— : indicated a lead wire mounted on the component side.
- —— : indicated a lead wire mounted on the conductor side.
- ● : Through hole.
- ■ : Parts mounted on the conductor side.
- ▨ : Pattern from the side which enables seeing.
- 🟥 : Pattern of the rear side.
- Circled numbers refer to waveforms.

Caution:	
Pattern face side: (Conductor Side)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Component side)	Parts on the parts face side seen from the pattern face are indicated.

- **For schematic diagrams.**
- Caution when replacing chip parts.
  New parts must be attached after removal of chip.
  Be careful not to heat the minuts side of tantalum capacitor, because it is damaged by the heat.
- All resistors are in ohms, 1/4W unless otherwise noted.
  Chip resistor are 1/10W unless otherwise noted.
  kΩ : 1000Ω , MΩ : 1000kΩ .
- All capacitors are in μF unless otherwise noted. pF: μμF.
  50V or less are not indicated except for electrolytics and tantalums.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- ⊡ : nonflammable resistor.
- —▭— : fusible resistor.
- ▭ : panel designation.
- △ : internal component.
- ▭ : adjustment for repeair.
- ━━ : B+ Line.
- - - - : B– Line.
- ⇨ : IN/OUT direction of (+, –) B LINE.
- Circled numbers refer to waveforms.

Note: The components identi- fied by mark ⚠ or dotted line with mark ⚠ are critical for safty.
Replace only with part number specified.

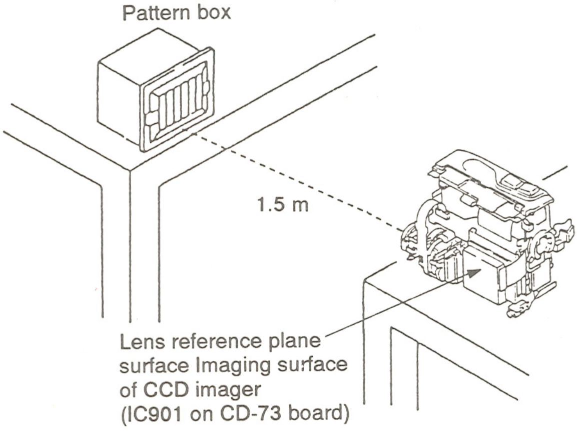
When indicating parts by refer- ence number, please include the board name.

- **Measuring conditions voltage value and waveform.**

(CAMERA, DIGITAL TITLE block)

- The object is color bar chart of pattern box.
- Voltages are dc between ground and measurement points.
  Readings are taken with a digital multimeter (DC 10MΩ).
- Voltage variations may be noted due to normal production tolerances.

1. Connection


Pattern box
1.5 m
Lens reference plane surface Imaging surface of CCD imager (IC901 on CD-73 board)

2. Adjust the distance so that the output waveform of Fig. a and the Fig. b can be obtain.

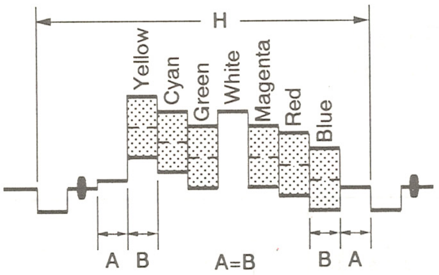


Fig. a (Video output terminal output waveform

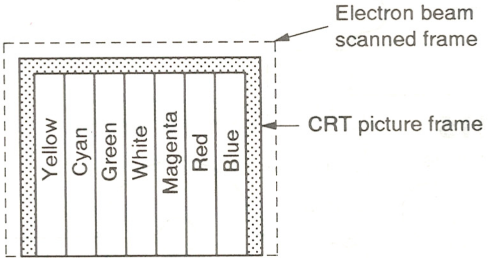


Fig. (Picture on monitor TV)

(VIDEO, SERVO/SYSTEM CONTROL, MODE CONTROL, VIEW FINDER block)

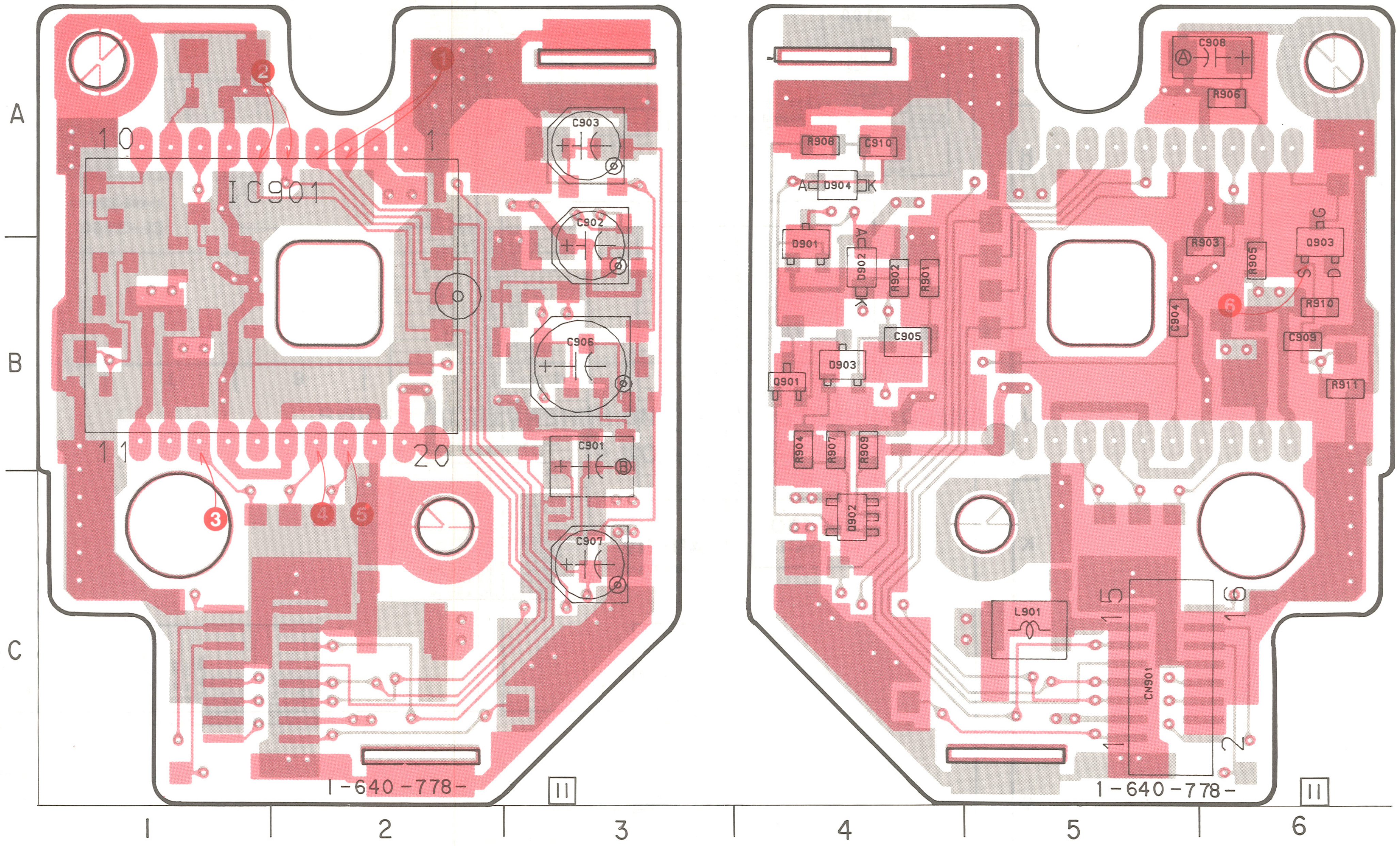
- Voltages are dc between ground and measurement points.
- Readings are taken with a color-bar signal input.
- Readings are taken with a digital multimeter (DC10MΩ).
- Voltage variations may be noted due to normal production tolerances.

CD-73 (CCD IMAGER) PRINTED WIRING BOARD

— Ref. No. CD-73 BOARD: 1000 series —

```
* A-7062-877-A CD-73  BOARD, COMPLETE
               **********************
                              (Ref.No 1,000 Series)

                     < DIODE >

D901      8-719-800-76 DIODE    1SS226
D902      8-719-404-46 DIODE    MA110
D902      8-719-976-31 DIODE    1SS332
D903      8-719-820-05 DIODE    1SS181
D904      8-719-404-46 DIODE    MA110

D904      8-719-976-31 DIODE    1SS332

                     < TRANSISTOR >

Q901      8-729-425-64 TRANSISTOR   2SD2216QR
Q902      8-729-927-68 TRANSISTOR   UMW1-TR
Q903      8-729-232-86 TRANSISTOR   2SK1875-BL/V-TE85L
```

CD-73 BOARD (COMPONENT SIDE) **CD-73 BOARD (CONDUCTOR SIDE)**

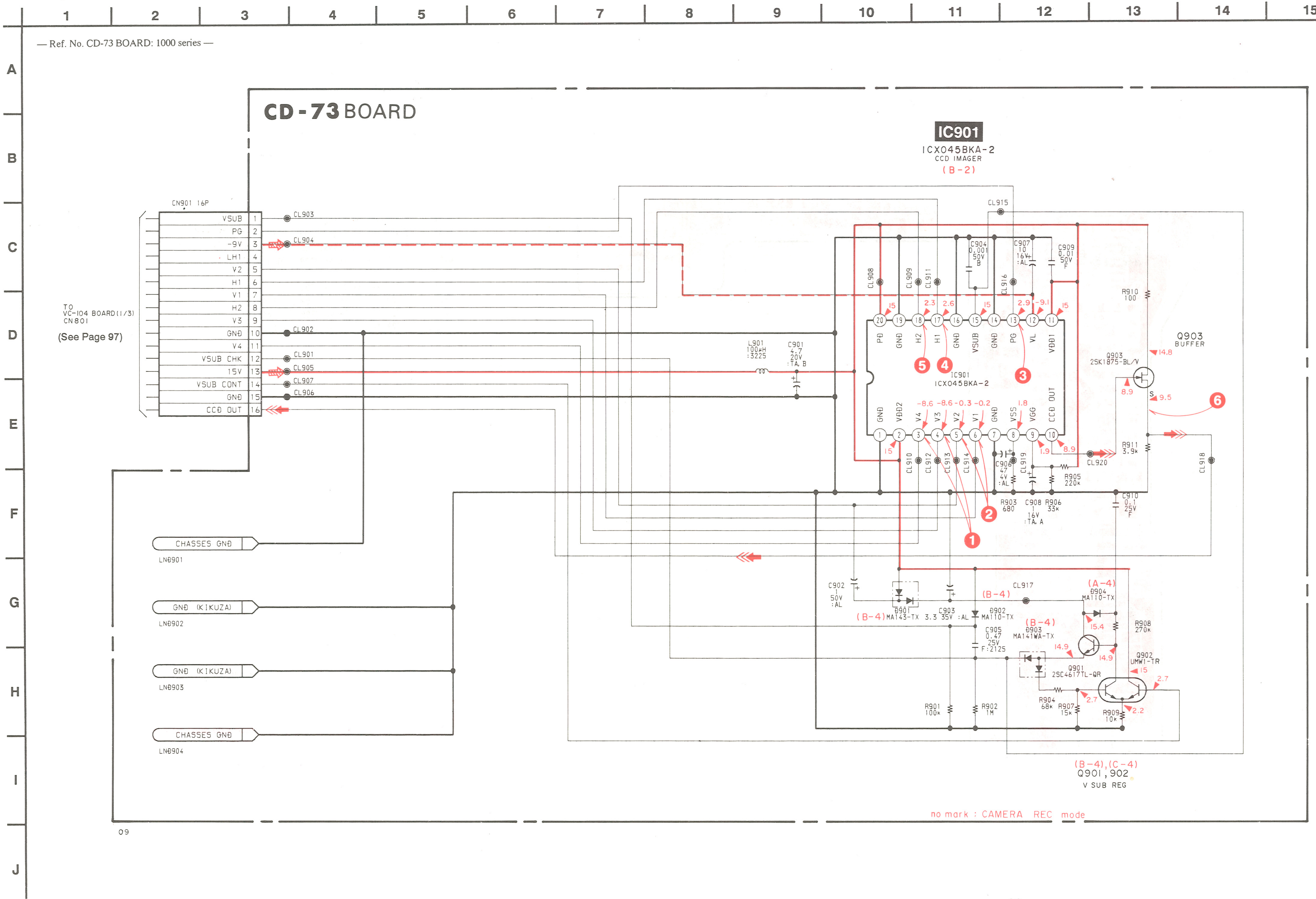

A
B
C
1
2
3
4
5
6
10
1
IC901
11
20
C903
C902
C906
C901
C907
①
②
③
④
⑤
1-640-778-
11
C908
R906
R908
C910
A
D904
K
D901
D902
R902
R901
C905
D903
Q901
R904
R907
R909
D902
R903
R905
Q903
G
S
D
R910
C909
R911
C904
⑥
L901
CN901
15
16
1
2
1-640-778-
11

- **For printed wiring boards.**
- CD-73 board is the printed wiring board which has four layers structure but inner two layers' patterns are omitted.
- ● : Through hole is omitted.

Caution:	
Pattern face side: (Conductor Side)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Component side)	Parts on the parts face side seen from the pattern face are indicated.

CD-73 (CCD IMAGER) SCHEMATIC DIAGRAM

— Ref. No. CD-73 BOARD: 1000 series —



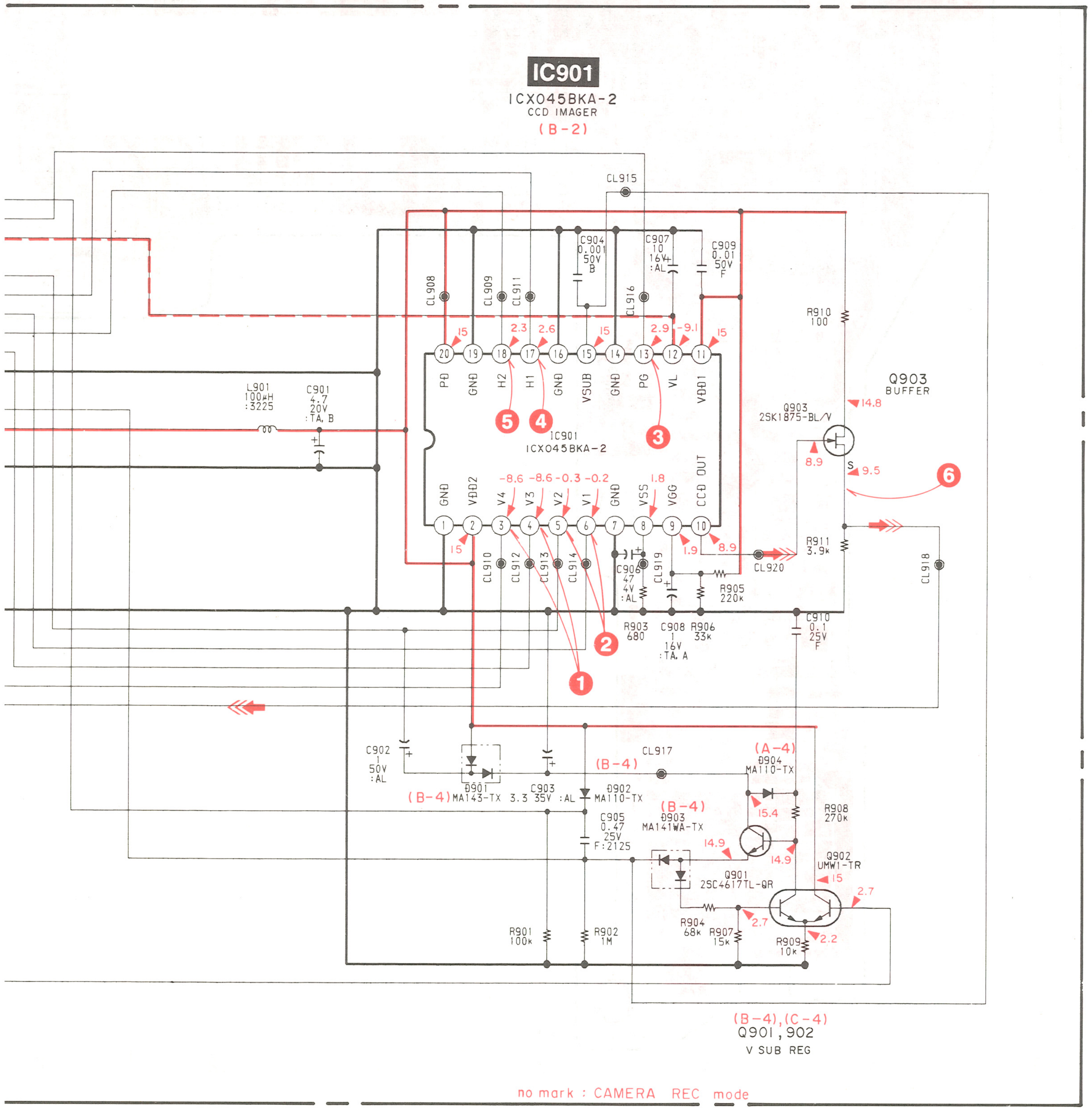
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
A
B
C
D
E
F
G
H
I
J
CD-73 BOARD
IC901
ICX045BKA-2
CCD IMAGER
(B-2)
CN901 16P
VSUB 1
PG 2
-9V 3
LH1 4
V2 5
H1 6
V1 7
H2 8
V3 9
GND 10
V4 11
VSUB CHK 12
15V 13
VSUB CONT 14
GND 15
CCD OUT 16
TO VC-104 BOARD(1/3) CN801
(See Page 97)
CL903
CL904
CL902
CL901
CL905
CL907
CL906
L901 100μH :3225
C901 4.7 20V :TA, B
CL915
CL908
CL909
CL911
CL916
C904 0.001 50V B
C907 10 16V :AL
C909 0.01 50V F
15
2.3
2.6
15
2.9
-9.1
15
20 19 18 17 16 15 14 13 12 11
PD GND H2 H1 GND VSUB GND PG VL VDD1
5
4
3
IC901
ICX045BKA-2
GND VDD2 V4 V3 V2 V1 GND VSS VGG CCD OUT
-8.6 -8.6 -0.3 -0.2
1.8
1 2 3 4 5 6 7 8 9 10
15
1.9
8.9
CL910
CL912
CL913
CL914
CL919
C906 47 4V :AL
R905 220k
CL920
R903 680
C908 1 16V :TA, A
R906 33k
2
1
R910 100
Q903 BUFFER
Q903 2SK1875-BL/V
14.8
8.9
S
9.5
6
R911 3.9k
CL918
C910 0.1 25V F
CHASSES GND
LND901
GND (KIKUZA)
LND902
GND (KIKUZA)
LND903
CHASSES GND
LND904
C902 1 50V :AL
D901
(B-4) MA143-TX
C903 3.3 35V :AL
D902 MA110-TX
(B-4)
CL917
(A-4)
D904 MA110-TX
(B-4)
D903 MA141WA-TX
C905 0.47 25V F:2125
15.4
14.9
14.9
R908 270k
Q902 UMW1-TR
15
2.7
Q901 2SC4617TL-QR
2.7
2.2
R904 68k
R907 15k
R909 10k
R901 100k
R902 1M
(B-4),(C-4)
Q901, 902
V SUB REG
no mark : CAMERA REC mode
09

Note on the

- Some of imager (IC The corre of the can also writt (upper) of The corr supplied imager to data label the camer for input
- The CCD CD-73 bo When rep from the
- Perform a imager ha
- Handle th may be br Also, pre and strong

- SIGNAL P

	CHF
REC	
PB	


IC901
ICX045BKA-2
CCD IMAGER
(B-2)
CL915
C904 0.001 50V B
C907 10 16V :AL
C909 0.01 50V F
CL908
CL909
CL911
CL916
R910 100
15
2.3
2.6
15
2.9
-9.1
15
PG
GND
H2
H1
GND
VSUB
GND
PG
VL
VDD1
L901 100μH :3225
C901 4.7 20V :TA, B
IC901
ICX045BKA-2
GND
VDD2
V4
V3
V2
V1
GND
VSS
VGG
CCD OUT
-8.6
-8.6
-0.3
-0.2
1.8
15
1.9
8.9
Q903
BUFFER
Q903
2SK1875-BL/V
14.8
8.9
9.5
R911 3.9k
CL920
CL910
CL912
CL913
CL914
C906 47 4V :AL
CL919
R905 220k
R903 680
C908 1 16V :TA, A
R906 33k
C910 0.1 25V F
CL918
C902 1 50V :AL
(B-4) D901 MA143-TX
C903 3.3 35V :AL
D902 MA110-TX
(B-4)
CL917
(A-4) D904 MA110-TX
C905 0.47 25V F:2125
(B-4) D903 MA141WA-TX
15.4
14.9
14.9
R908 270k
Q902 UMW1-TR
Q901 2SC4617TL-QR
15
2.7
2.7
2.2
R904 68k
R907 15k
R909 10k
R901 100k
R902 1M
(B-4),(C-4)
Q901, 902
V SUB REG
no mark : CAMERA REC mode

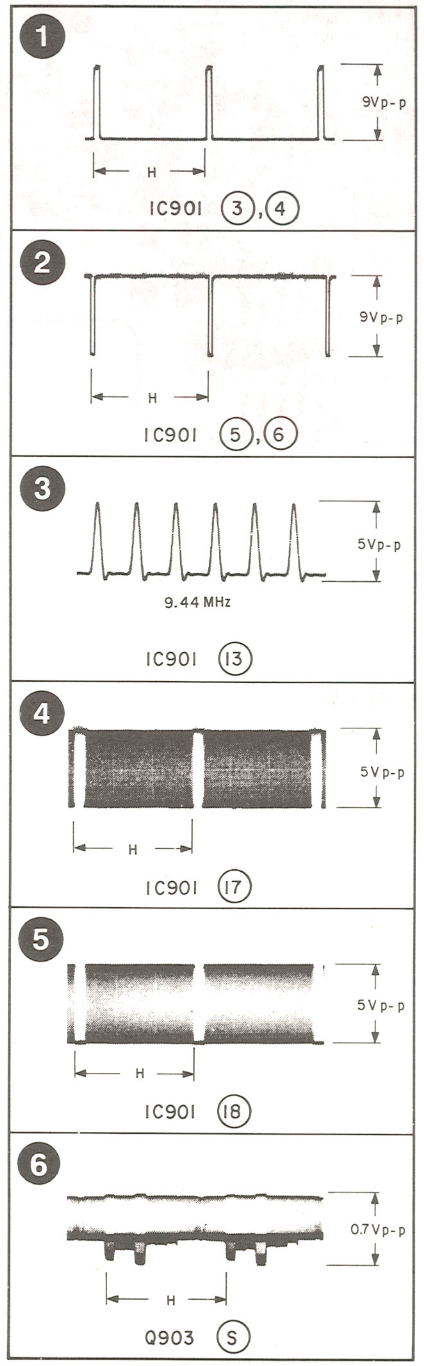
Note on the CCD imager replacement

- Some of this units require the correction data by the CCD imager (IC901 on CD-73 board), some do not.
  The correction data is input in F page and addresses 1D to 2C of the camera micro processor (IC709 on VC-104 board), and also written on the CCD data label put on the shield case (upper) of the DD-37 board.
  The correction data is not required for the CCD imager supplied for repair. Therefore, when replacing the CCD imager to which the CCD data label is put, remove the CCD data label and input 00 to F page and addresses 1D to 2C of the camera micro processor. Refer to the camera adjustment for input method.
- The CCD imager is not mounted for the already mounted CD-73 board supplied as the repair parts.
  When replacing the CD-73 board, remove the CCD imager from the old board and install on the new board.
- Perform all adjustments of the camera block when the CCD imager has been replaced.
- Handle the CCD imager with attention such as MOS IC as it may be broken by static electricity in the structure.
  Also, prevent the receiving light section from dust attached and strong light.

- **SIGNAL PATH**

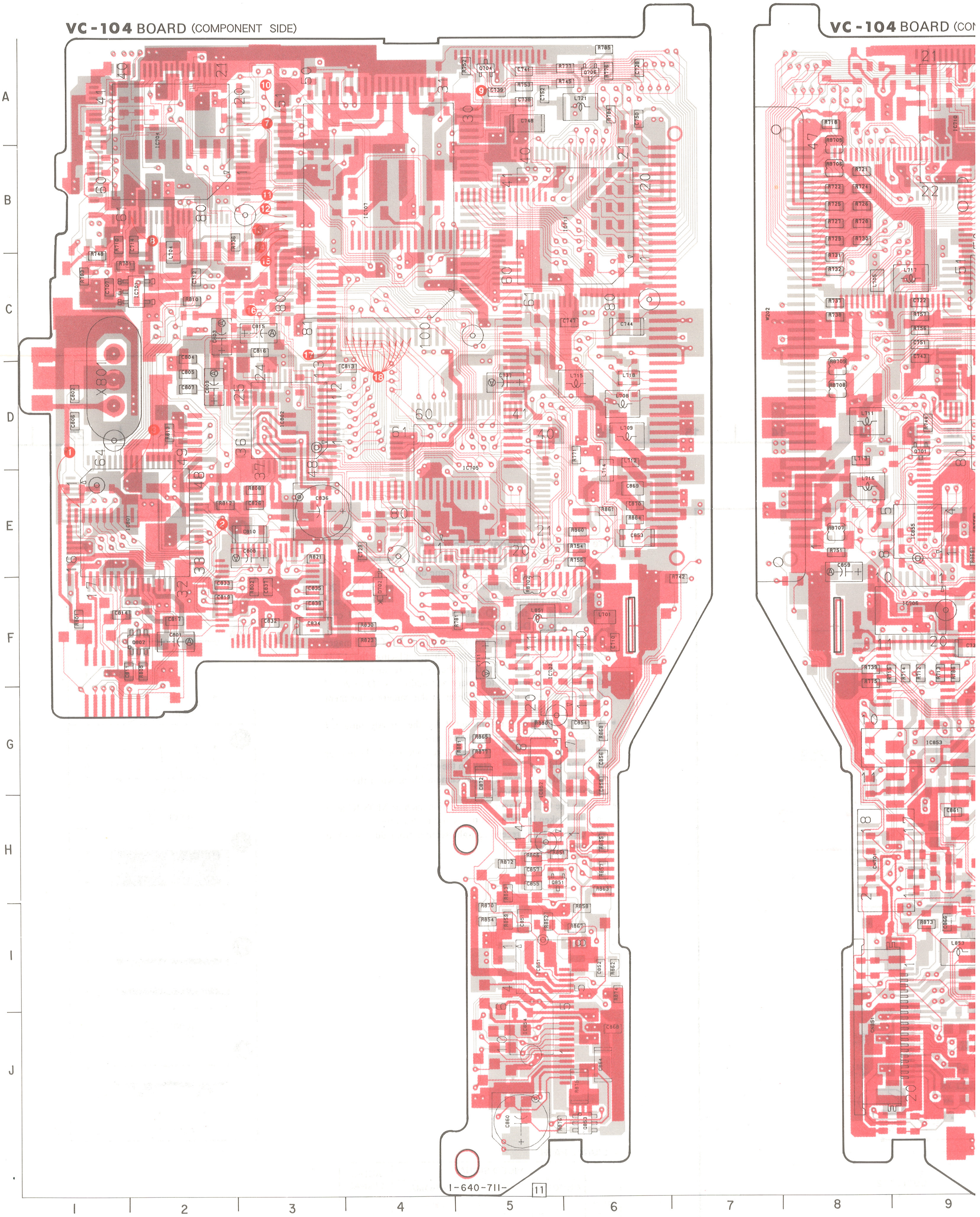
	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC			➡	
PB				

CD-73 BOARD

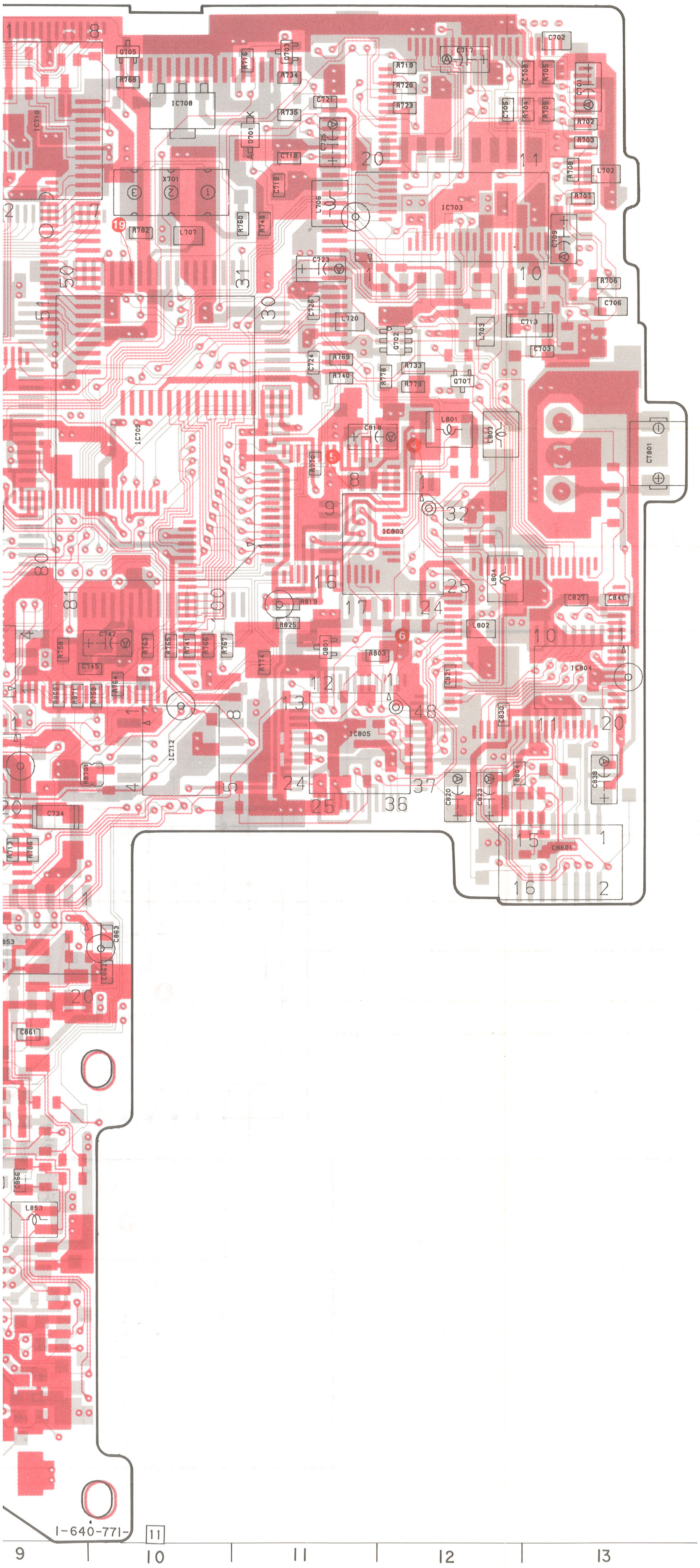


VC-104 (CAMERA, LENS CONTROL) PRINTED WIRING BOARD

— Ref. No. VC-104 BOARD: 1000 series —


VC-104 BOARD (COMPONENT SIDE)
VC-104 BOARD (CO
A
B
C
D
E
F
G
H
I
J
1
2
3
4
5
6
7
8
9
1-640-711-
11
IC701
IC702
IC705
IC751
IC802
IC851
IC853
IC854
X801
Q701
Q704
Q706
Q802
Q851
Q853
L701
L703
L705
L708
L709
L711
L712
L713
L715
L716
L718
L721
L851
L853
CN851
W202

RD (CONDUCTOR SIDE)


IC701
IC702
IC703
IC705
IC708
IC709
IC710
IC712
IC803
IC804
IC805
X701
CT801
CN801
D701
Q701
Q702
Q705
Q801
L701
L702
L703
L706
L707
L720
L801
L802
L803
L804
L853
I-640-771-
11
9
10
11
12
13

* A-7062-876-A VC-104 BOARD, COMPLETE
****
(Ref. No 1,000 Series)

< DIODE >

D701	8-719-404-46	DIODE	MA110
D702	8-719-404-46	DIODE	MA110

< IC >

IC701	8-759-243-19	IC	TC7SU04F
IC702	8-759-635-27	IC	M62352GP
IC703	8-759-518-62	IC	MB-90071-104-PF
IC704	8-752-348-92	IC	CXD2101AR
IC705	8-759-519-13	IC	CXD2103R
IC706	8-752-337-36	IC	CXD2104N
IC707	8-752-337-32	IC	CXD2100Q
IC708	8-759-937-56	IC	S-8054ALB-LM-S
IC709	8-752-832-55	IC	CXP80624-235Q
IC710	8-759-519-14	IC	MB8464-15LLPFTN
IC711	8-759-518-81	IC	CXD2112R
IC712	8-759-720-45	IC	CAT35C202K-TE10
IC801	8-752-337-34	IC	CXD1257R
IC802	8-752-053-83	IC	CXA1507AR
IC803	8-752-053-26	IC	CXA1399Q
IC804	8-752-327-48	IC	CXD1250N
IC805	8-752-054-61	IC	CXA1390AR
IC851	8-759-981-82	IC	RC3414M
IC852	8-759-998-96	IC	LM324D
IC853	8-759-038-81	IC	MPC1724MR
IC854	8-759-823-51	IC	LB1830M
IC855	8-759-998-98	IC	LM358D

< TRANSISTOR >

Q701	8-729-928-87	TRANSISTOR	DTC124EE
Q702	8-729-427-74	TRANSISTOR	XP4601
Q703	8-729-928-19	TRANSISTOR	2SA1774
Q704	8-729-928-19	TRANSISTOR	2SA1774
Q705	8-729-928-81	TRANSISTOR	DTC144EE
Q706	8-729-927-XX	TRANSISTOR	2SC4617TL
Q707	8-729-928-36	TRANSISTOR	DTA114EE
Q801	8-729-927-XX	TRANSISTOR	2SC4617TL
Q802	8-729-427-80	TRANSISTOR	XP6401
Q851	8-729-927-XX	TRANSISTOR	2SC4617TL
Q853	8-729-427-80	TRANSISTOR	XP6401

- **For printed wiring boards.**
- VC-104 board is the printed wiring board which has four layers structure but inner two layers' patterns are omitted.
- ● : Through hole is omitted.

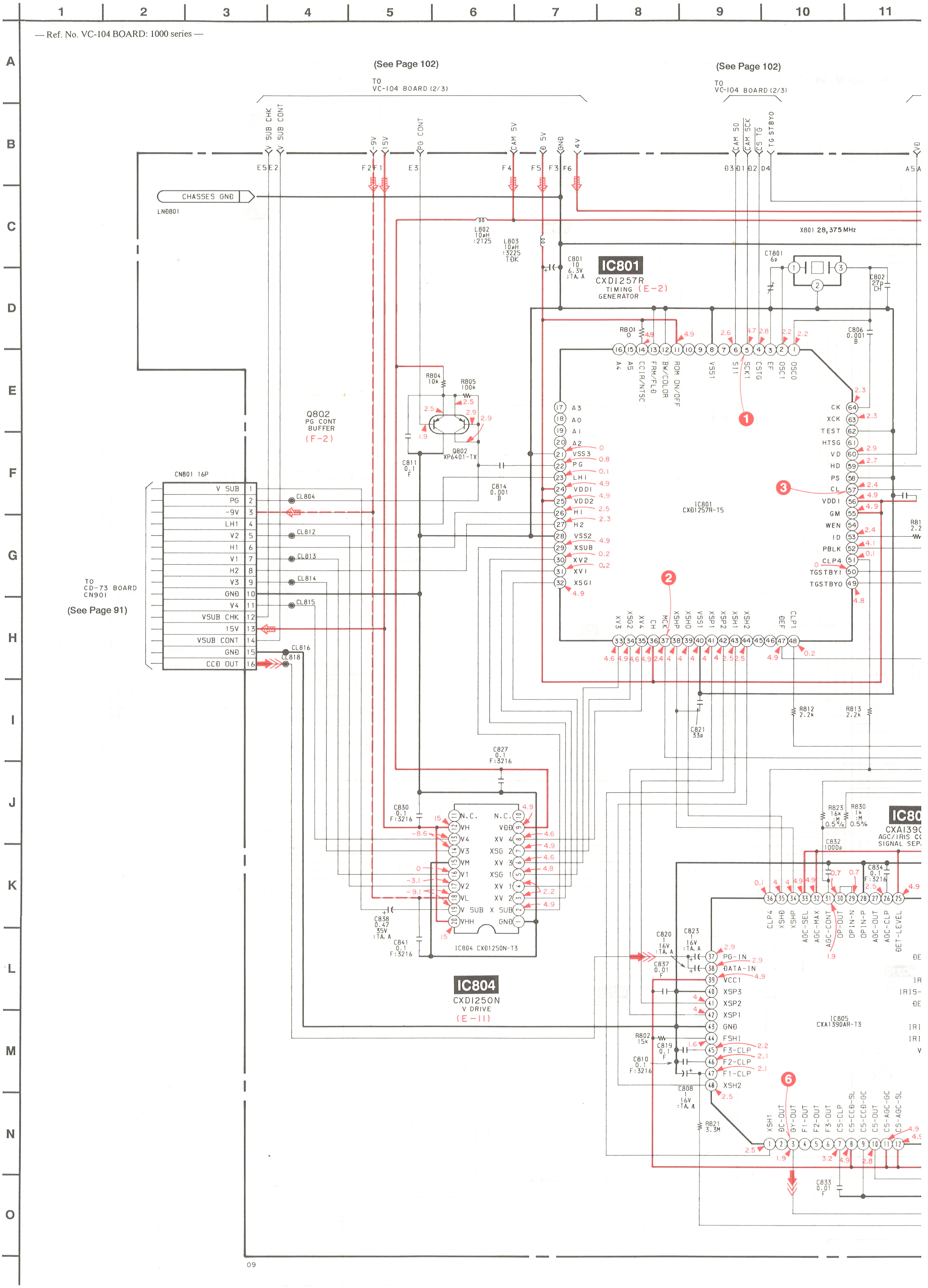
Caution:

Pattern face side: (Conductor Side)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Component side)	Parts on the parts face side seen from the pattern face are indicated.

VC-104 (CAMERA) SCHEMATIC DIAGRAM

• Refer to page 94 for Printed Wiring Board.

— Ref. No. VC-104 BOARD: 1000 series —



1
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10
11
A
B
C
D
E
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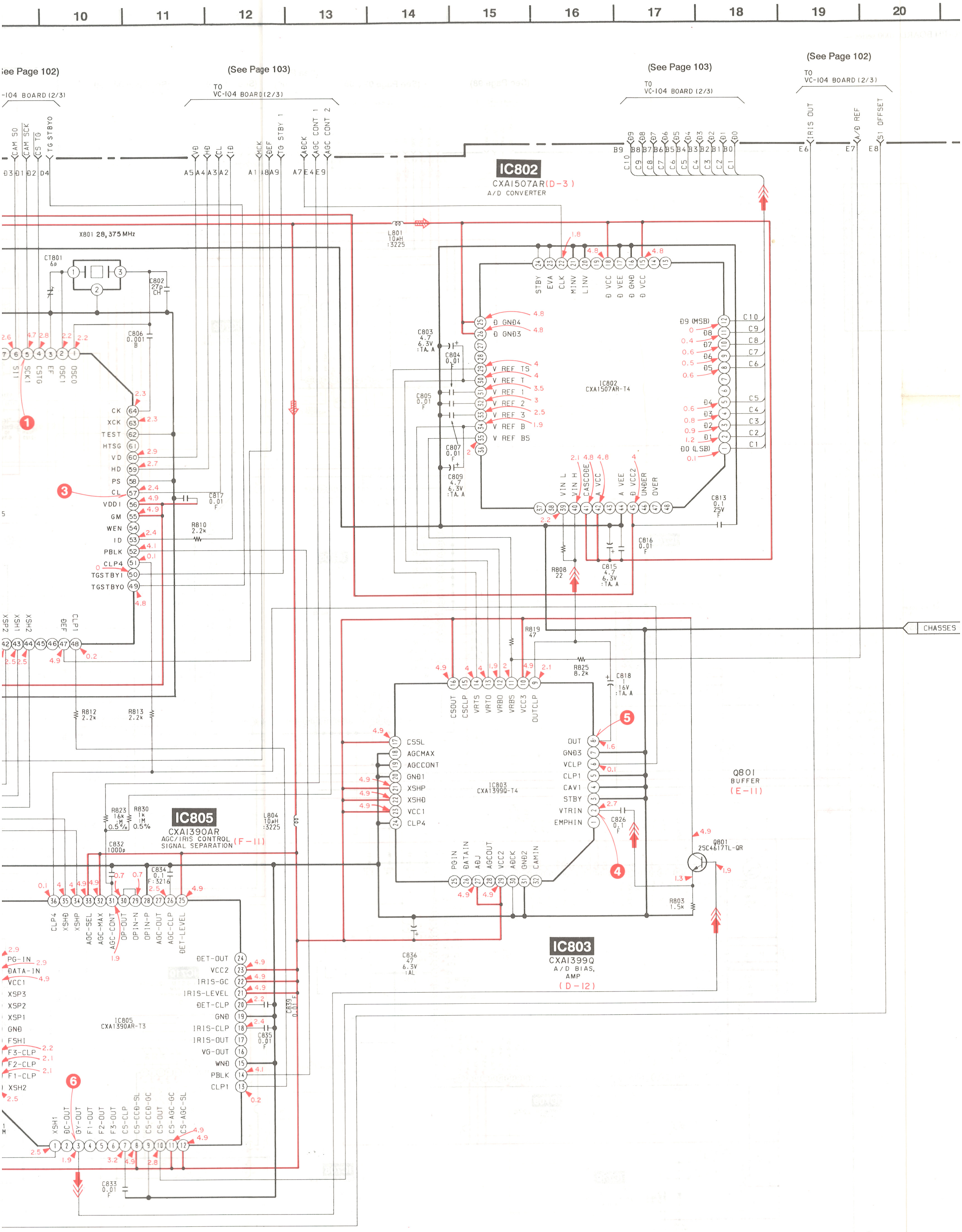
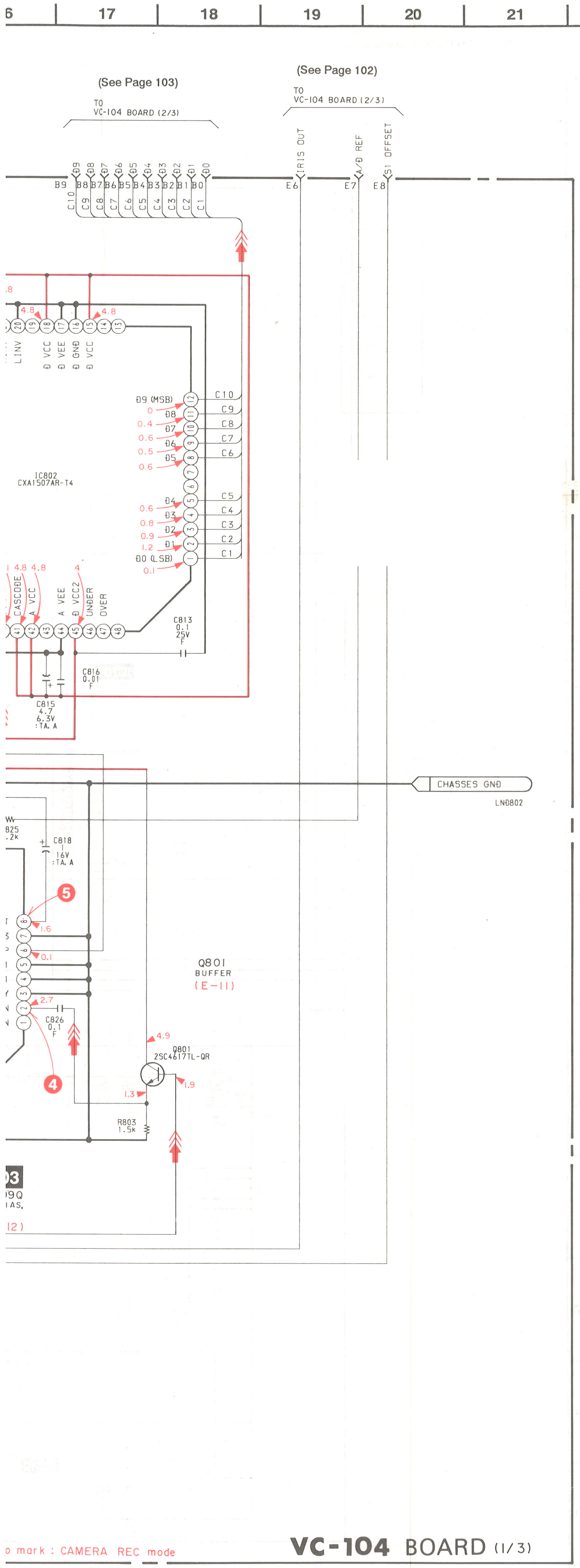
G
H
I
J
K
L
M
N
O
(See Page 102)
TO
VC-104 BOARD (2/3)
(See Page 102)
TO
VC-104 BOARD (2/3)
V SUB CHK
V SUB CONT
-9V
15V
PG CONT
CAM 5V
D 5V
GND
4V
CAM SO
CAM SCK
CS TG
TG STBYO
E5
E2
F2
F1
E3
F4
F5
F3
F6
D3
D1
D2
D4
A5
CHASSES GND
LN0801
L802
10μH
:2125
L803
10μH
:3225
TDK
C801
10
6.3V
:TA, A
IC801
CXD1257R
TIMING
(E-2)
GENERATOR
X801 28,375MHz
CT801
6p
C802
27p
CH
C806
0.001
B
R801
0
R804
10k
R805
100k
Q802
PG CONT
BUFFER
(F-2)
Q802
XP6401-TX
C811
0.1
F
C814
0.001
B
IC801
CXD1257R-T5
A4
A5
CCIR/NTSC
FRM/FLD
BW/COLOR
ROM ON/OFF
VSS1
SI
SCK1
CSTG
EF
OSCI
OSCO
A3
A0
A1
A2
VSS3
PG
LHI
VDDI
VDD2
H1
H2
VSS2
XSUB
XV2
XVI
XSGI
CK
XCK
TEST
HTSG
VD
HD
PS
CL
VDDI
GM
WEN
ID
PBLK
CLP4
TGSTBYI
TGSTBYO
XV3
XSG2
XV4
CH
MCK
XSHP
XSHD
VSS1
XSP1
XSP2
XSH1
XSH2
DEF
CLP1
CN801 16P
V SUB
PG
-9V
LH1
V2
H1
V1
H2
V3
GND
V4
VSUB CHK
15V
VSUB CONT
GND
CCD OUT
CL804
CL812
CL813
CL814
CL815
CL816
CL818
TO
CD-73 BOARD
CN901
(See Page 91)
R812
2.2k
R813
2.2k
C821
33p
C827
0.1
F:3216
C830
0.1
F:3216
C838
0.47
35V
:TA, A
C841
0.1
F:3216
N.C.
VH
V4
V3
VM
V1
V2
VL
V SUB
VHH
N.C.
VDD
XV 4
XSG 2
XV 3
XSG 1
XV 1
XV 2
X SUB
GND
IC804 CXD1250N-T3
IC804
CXD1250N
V DRIVE
(E-11)
R823
16k
0.5%
R830
1k
0.5%
C832
1000p
C834
0.1
F:3216
IC80
CXA139
AGC/IRIS C
SIGNAL SEP
CLP4
XSHD
XSHP
AGC-SEL
AGC-MAX
AGC-CONT
OP-OUT
OP-IN-N
OP-IN-P
AGC-OUT
AGC-CLP
DET-LEVEL
C820
1
16V
:TA, A
C823
1
16V
:TA, A
C837
0.01
F
PG-IN
DATA-IN
VCC1
XSP3
XSP2
XSP1
GND
FSHI
F3-CLP
F2-CLP
F1-CLP
XSH2
R802
15k
C819
0.1
F
C810
0.1
F:3216
C808
1
16V
:TA, A
R821
3.3M
IC805
CXA1390AR-T3
XSH1
DC-OUT
GY-OUT
F1-OUT
F2-OUT
F3-OUT
CS-CLP
CS-CCD-SL
CS-CCD-GC
CS-OUT
CS-AGC-GC
CS-AGC-SL
C833
0.01
F
R81
2.2
DE
IR
IRIS
DE
IRI
IRI
V
09
1
2
3
6
4.9
2.6
4.7
2.8
2.2
2.2
2.3
2.3
2.9
2.7
2.4
4.9
4.9
2.4
4.1
0.1
0
4.8
2.5
2.9
2.5
1.9
2.9
0
0.8
0.1
4.9
4.9
2.5
2.3
4.9
0.2
0.2
4.9
4.6
4.9
4.6
4.9
2.4
4
4
4
4
2.5
2.5
4.9
0.2
15
-8.6
0
-3.1
-9.1
15
4.9
4.6
4.9
4.6
4.8
2.2
4.9
0.1
4
4
4.9
4.9
0.7
0.7
2.5
1.9
4.9
2.9
2.9
4.9
4
4
1.6
2.2
2.1
2.1
2.5
2.5
1.9
3.2
4.9
2.8
4.9
4.9


10
11
12
13
14
15
16
17
18
19
20
(See Page 102)
(See Page 103)
(See Page 103)
(See Page 102)
TO VC-104 BOARD (2/3)
IC802
CXA1507AR (D-3)
A/D CONVERTER
IC803
CXA1399Q
A/D BIAS, AMP
(D-12)
IC805
CXA1390AR
AGC/IRIS CONTROL, SIGNAL SEPARATION
(F-11)
Q801
BUFFER
(E-11)
Q801
2SC4617TL-QR
X801 28.375MHz
CT801 6p
C802 27p CH
C806 0.001 B
L801 10μH :3225
L804 10μH :3225
C803 4.7 6.3V :TA, A
C804 0.01 F
C805 0.01 F
C807 0.01 F
C809 4.7 6.3V :TA, A
C813 0.1 25V F
C815 4.7 6.3V :TA, A
C816 0.01 F
C817 0.01 F
C818 1 16V :TA, A
C826 0.1 F
C832 1000p
C833 0.01 F
C834 0.1 F :3216
C835 0.01 F
C836 47 6.3V :AL
C839 0.01 F
R803 1.5k
R808 22
R810 2.2k
R812 2.2k
R813 2.2k
R819 47
R823 16k :M 0.5%
R825 8.2k
R830 1k :M 0.5%
IC802 CXA1507AR-T4
IC803 CXA1399Q-T4
IC805 CXA1390AR-T3
CHASSES
CAM SO
CAM SCK
CS TG
TG STBY0
VD
HD
CL
ID
MCK
DEF
TG STBY 1
AD CK
AGC CONT 1
AGC CONT 2
D9 D8 D7 D6 D5 D4 D3 D2 D1 D0
IRIS OUT
A/D REF
S1 OFFSET
STBY EVA CLK MINV LINV D VCC D VEE D GND D VCC
D GND4 D GND3
V REF TS V REF T V REF 1 V REF 2 V REF 3 V REF B V REF BS
D9 (MSB) D8 D7 D6 D5 D4 D3 D2 D1 D0 (LSB)
VIN L VIN H CASCODE A VCC A VEE D VCC2 UNDER OVER
CK XCK TEST HTSG VD HD PS CL VDD1 GM WEN ID PBLK CLP4 TGSTBY1 TGSTBY0
XSP2 XSH1 XSH2 DEF CLP1
SI SCK1 CSTG EF OSCI OSCO
CSOUT CSCLP VRTS VRTO VRBO VRBS VCC3 OUTCLP
CSSL AGCMAX AGCCONT GND1 XSHP XSHD VCC1 CLP4
OUT GND3 VCLP CLP1 CAV1 STBY VTRIN EMPHIN
PGIN DATAIN ADJ AGCOUT VCC2 ADCK GND2 CAMIN
CLP4 XSHD XSHP AGC-SEL AGC-MAX AGC-CONT OP-OUT OP-IN-N OP-IN-P AGC-OUT AGC-CLP DET-LEVEL
DET-OUT VCC2 IRIS-GC IRIS-LEVEL DET-CLP GND IRIS-CLP IRIS-OUT VG-OUT WND PBLK CLP1
PG-IN DATA-IN VCC1 XSP3 XSP2 XSP1 GND FSH1 F3-CLP F2-CLP F1-CLP XSH2
XSH1 DC-OUT GY-OUT F1-OUT F2-OUT F3-OUT CS-CLP CS-CCD-SL CS-CCD-GC CS-OUT CS-AGC-GC CS-AGC-SL
①
③
④
⑤
⑥

no mark : CAMERA REC mode

VC-104 BOARD


17
18
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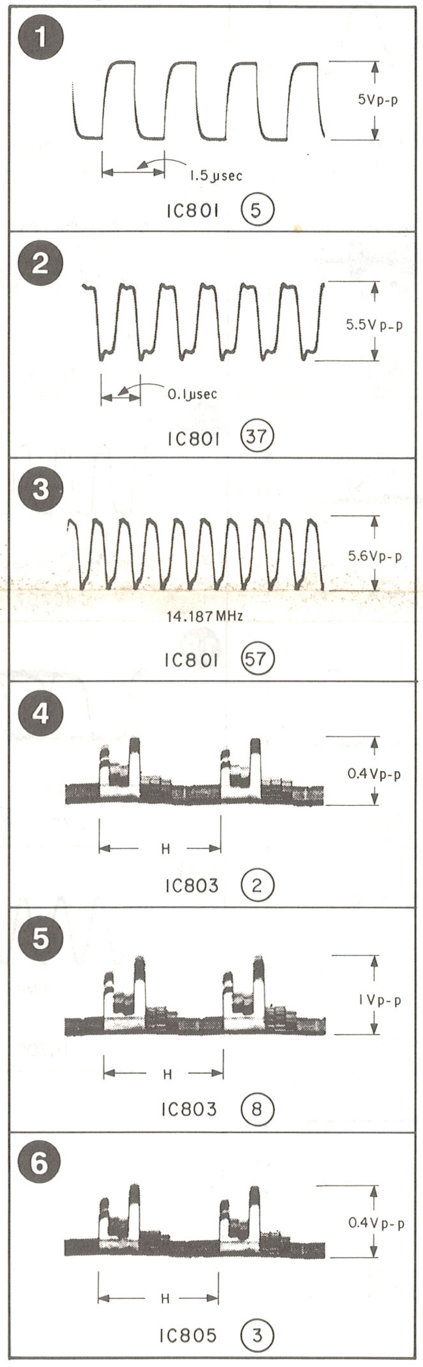
21
22
23
24
25
26
27
(See Page 103)
TO
VC-104 BOARD (2/3)
(See Page 102)
TO
VC-104 BOARD (2/3)
IRIS OUT
A/D REF
S1 OFFSET
E6
E7
E8
B9 B8 B7 B6 B5 B4 B3 B2 B1 B0
D9 D8 D7 D6 D5 D4 D3 D2 D1 D0
C10 C9 C8 C7 C6 C5 C4 C3 C2 C1
4.8
4.8
LINV
D VCC
D VEE
D GND
D VCC
D9 (MSB)
0
D8
0.4
D7
0.6
D6
0.5
D5
0.6
IC802
CXA1507AR-T4
D4
0.6
D3
0.8
D2
0.9
D1
1.2
D0 (LSB)
0.1
4.8 4.8
4
CASCODE
A VCC
A VEE
D VCC2
UNDER
OVER
C813
0.1
25V
F
C816
0.01
F
C815
4.7
6.3V
:TA, A
CHASSES GND
LND802
825
.2k
C818
1
16V
:TA, A
5
1.6
0.1
2.7
C826
0.1
F
4
Q801
BUFFER
(E-11)
4.9
Q801
2SC4617TL-QR
1.9
1.3
R803
1.5k
3
9Q
IAS,
12)

o mark : CAMERA REC mode

VC-104 BOARD (1/3)

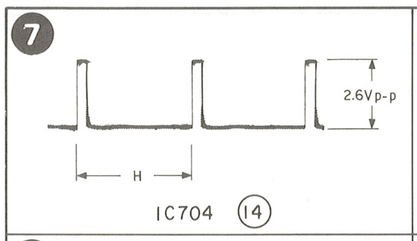
VC-104 BOARD (1/3)

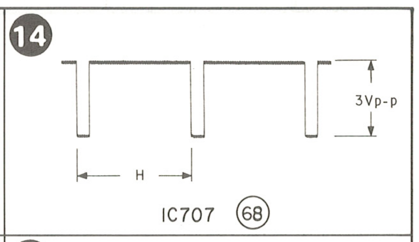


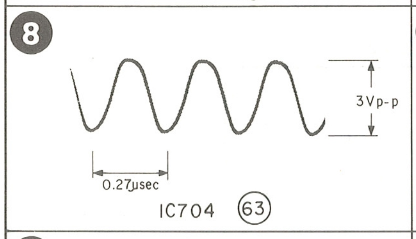
- SIGNAL PATH

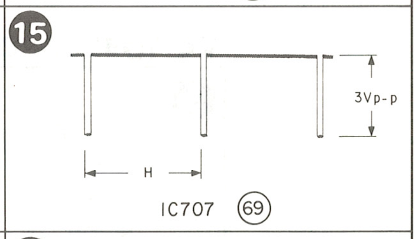
	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC			⇛	
PB				

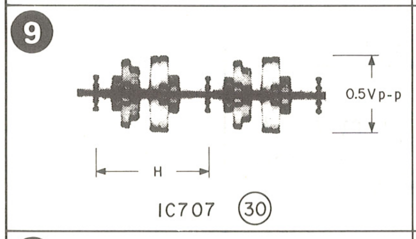
VC-104 BOARD (2/3)

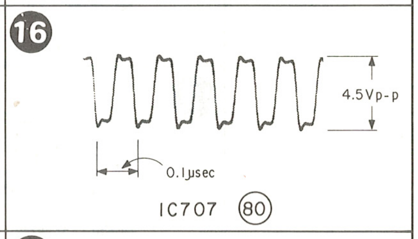


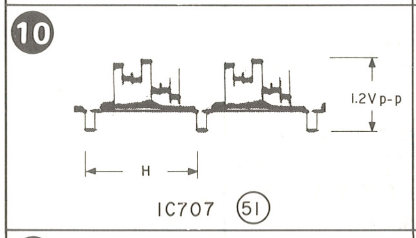


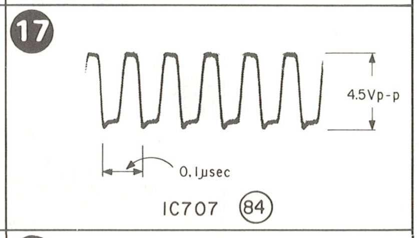


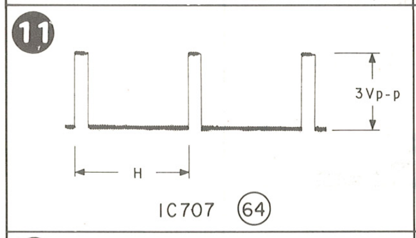


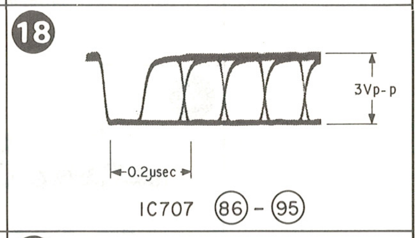


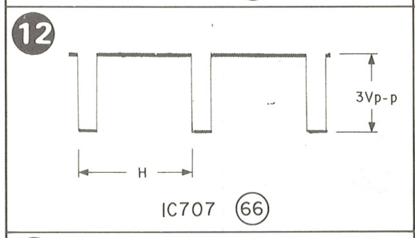


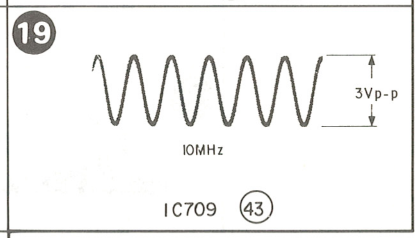


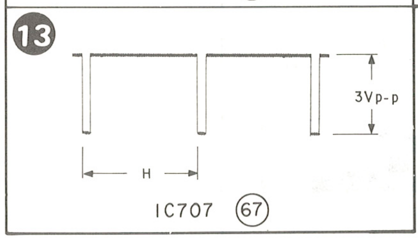










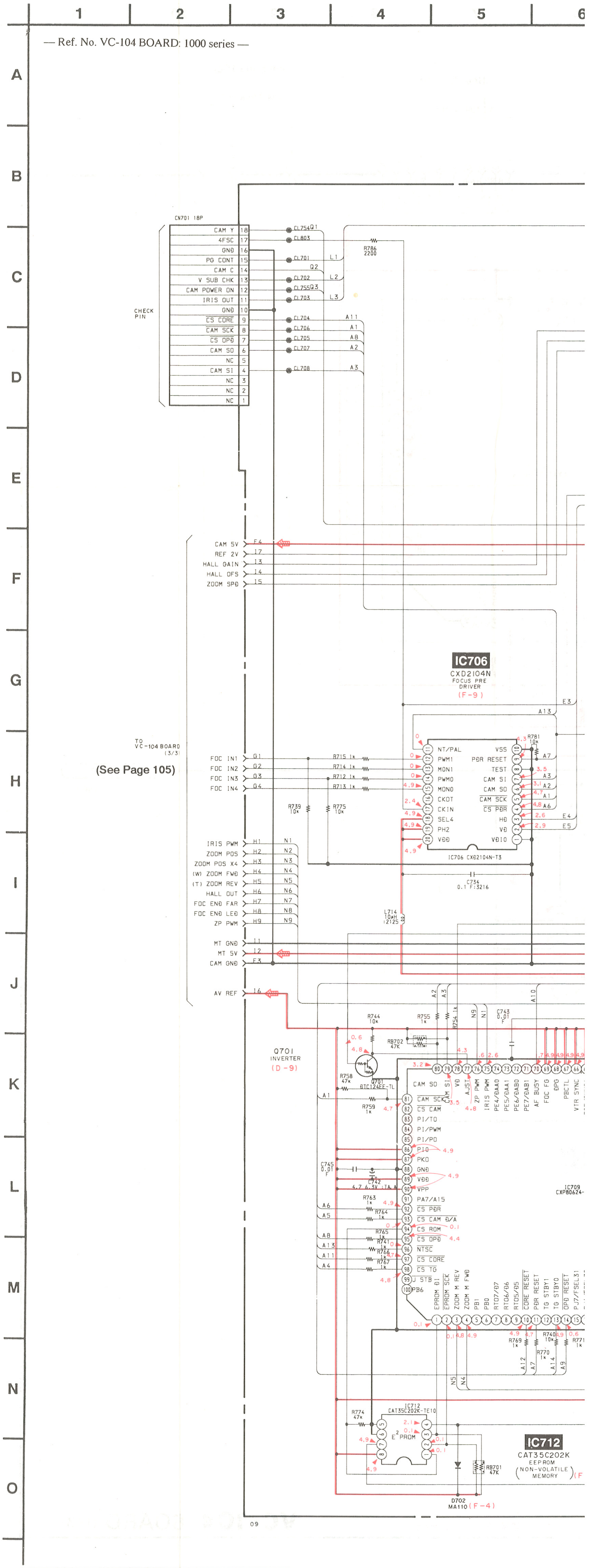


- SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC	➡	➡➡	➡➡➡	
PB				

VC-104 (CAMERA) SCHEMATIC DIAGRAM

- Refer to page 94 for Printed Wiring Board.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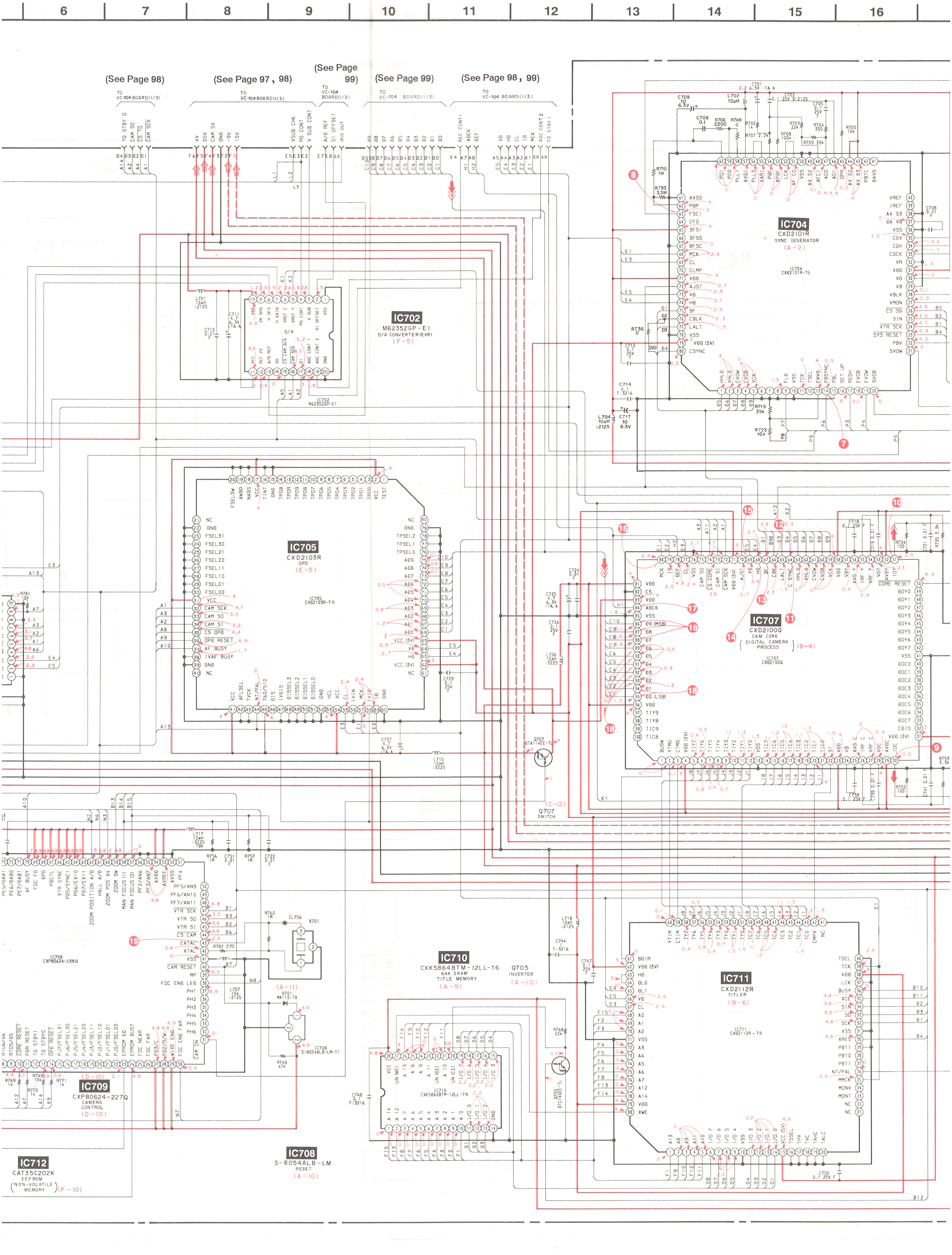
— Ref. No. VC-104 BOARD: 1000 series —
CN701 18P
CAM Y
4FSC
GND
PG CONT
CAM C
V SUB CHK
CAM POWER ON
IRIS OUT
GND
CS CORE
CAM SCK
CS OPD
CAM SO
NC
CAM SI
NC
NC
NC
CHECK PIN
CAM 5V
REF 2V
HALL GAIN
HALL OFS
ZOOM SPD
TO VC-104 BOARD (3/3)
(See Page 105)
FOC IN1
FOC IN2
FOC IN3
FOC IN4
IRIS PWM
ZOOM POS
ZOOM POS X4
(W) ZOOM FWD
(T) ZOOM REV
HALL OUT
FOC END FAR
FOC END LED
ZP PWM
MT GND
MT 5V
CAM GND
AV REF
IC706
CXD2104N
FOCUS PRE DRIVER
(F-9)
IC706 CXD2104N-T3
Q701
INVERTER
(D-9)
IC709
IC712
CAT35C202K
EEPROM
(NON-VOLATILE MEMORY)
IC712 CAT35C202K-TE10
E²PROM
D702
MA110 (F-4)

d Wiring Board.


6
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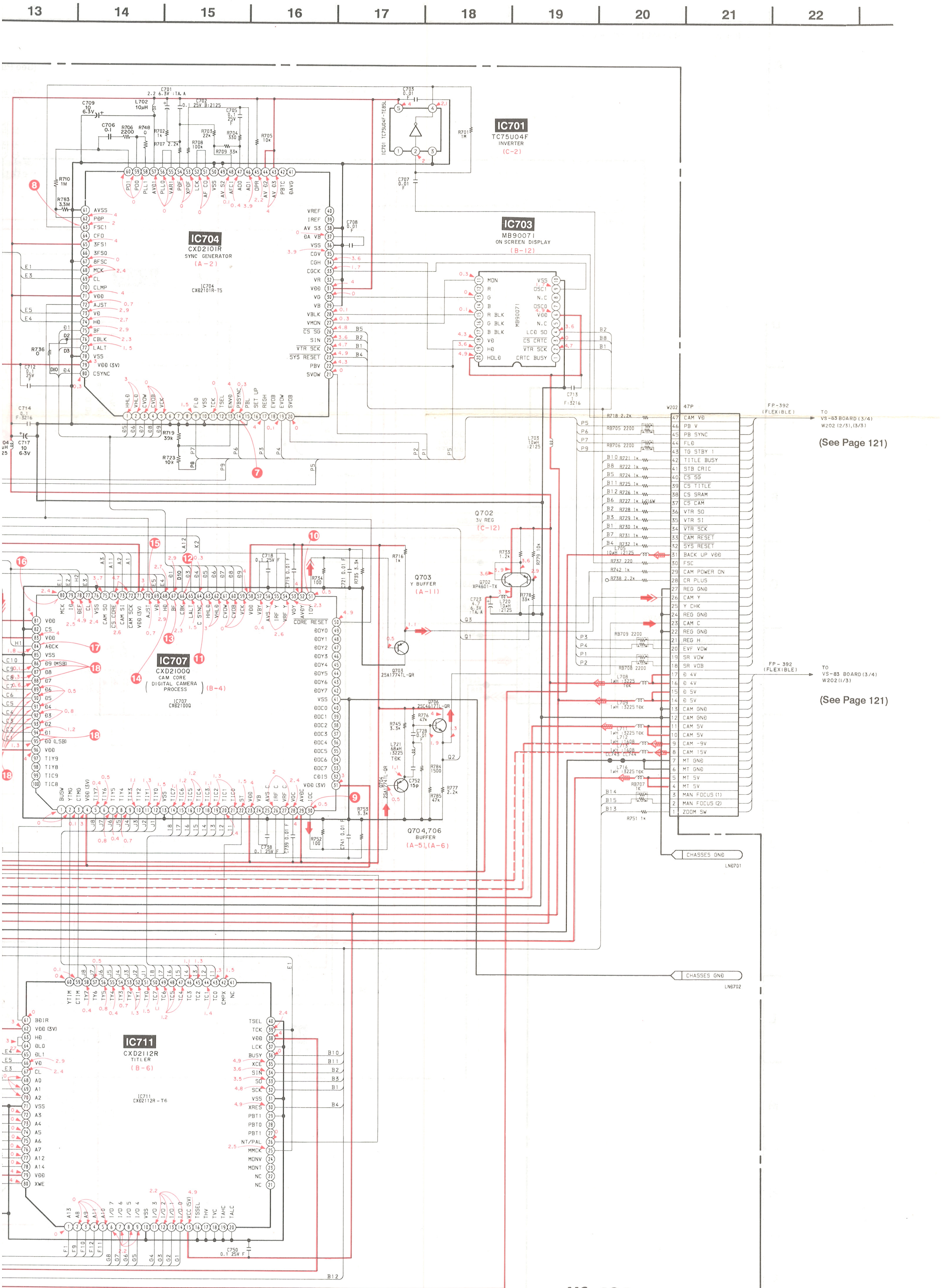
16
(See Page 98)
TO VC-104 BOARD(1/3)
(See Page 97 , 98)
TO VC-104 BOARD(1/3)
(See Page 99)
TO VC-104 BOARD(1/3)
(See Page 99)
TO VC-104 BOARD(1/3)
(See Page 98 , 99)
TO VC-104 BOARD(1/3)
IC702
M62352GP-E1
D/A CONVERTER(EVR)
(F-5)
IC704
CXD2101R
SYNC GENERATOR
(A-2)
IC705
CXD2103R
OPD
(E-5)
IC707
CXD2100Q
CAM CORE
DIGITAL CAMERA PROCESS
(B-4)
Q707
SWITCH
(C-12)
IC709
CXP80624-227Q
CAMERA CONTROL
(D-10)
IC710
CXK5864BTM-12LL-T6
64K SRAM
TITLE MEMORY
(A-9)
Q705
INVERTER
(A-10)
IC711
CXD2112R
TITLER
(B-6)
IC708
S-8054ALB-LM
RESET
(A-10)
IC712
CAT35C202K
EEPROM
(NON-VOLATILE MEMORY)
(F-10)

CAME


13
14
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21
22
IC701
TC75U04F
INVERTER
(C-2)
IC703
MB90071
ON SCREEN DISPLAY
(B-12)
IC704
CXD2101R
SYNC GENERATOR
(A-2)
IC704 CXD2101R-T5
IC707
CXD2100Q
CAM CORE
DIGITAL CAMERA PROCESS
(B-4)
IC707 CXD2100Q
IC711
CXD2112R
TITLER
(B-6)
IC711 CXD2112R-T6
Q702
3V REG
(C-12)
Q702 XP4601-TX
Q703
Y BUFFER
(A-11)
Q703 2SA1774TL-QR
Q704,706
BUFFER
(A-5),(A-6)
Q706 2SC4617TL-QR
Q704 2SA1774TL-QR
W202 47P
FP-392 (FLEXIBLE)
TO VS-83 BOARD (3/4) W202 (2/3),(3/3)
(See Page 121)
FP-392 (FLEXIBLE)
TO VS-83 BOARD (3/4) W202 (1/3)
(See Page 121)
47 CAM VD
46 PB V
45 PB SYNC
44 FLD
43 TG STBY 1
42 TITLE BUSY
41 STB CRIC
40 CS SG
39 CS TITLE
38 CS SRAM
37 CS CAM
36 VTR SO
35 VTR SI
34 VTR SCK
33 CAM RESET
32 SYS RESET
31 BACK UP VDD
30 FSC
29 CAM POWER ON
28 CR PLUS
27 REG GND
26 CAM Y
25 Y CHK
24 REG GND
23 CAM C
22 REG GND
21 REG H
20 EVF VDW
19 SR VDW
18 SR VDB
17 D 4V
16 D 4V
15 D 5V
14 D 5V
13 CAM GND
12 CAM GND
11 CAM 5V
10 CAM 5V
9 CAM -9V
8 CAM 15V
7 MT GND
6 MT GND
5 MT 5V
4 MT 5V
3 MAN FOCUS (1)
2 MAN FOCUS (2)
1 ZOOM SW
CHASSES GND
LN6701
CHASSES GND
LN6702

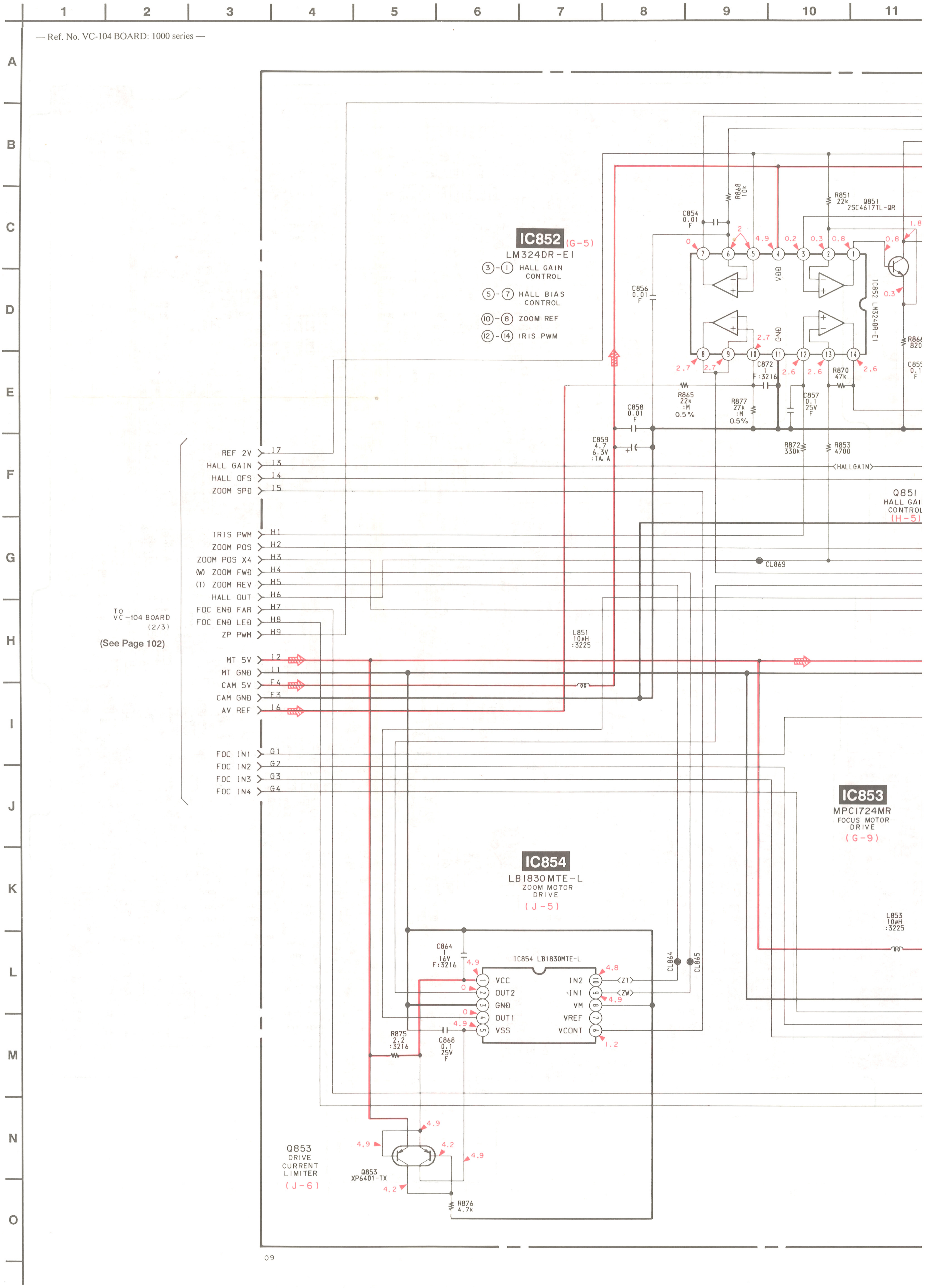
no mark : CAMERA REC mode

VC-104 BOARD (2/3)

VC-104 (LENS CONTROL) SCHEMATIC DIAGRAM

- Refer to page 94 for Printed Wiring Board.

— Ref. No. VC-104 BOARD: 1000 series —



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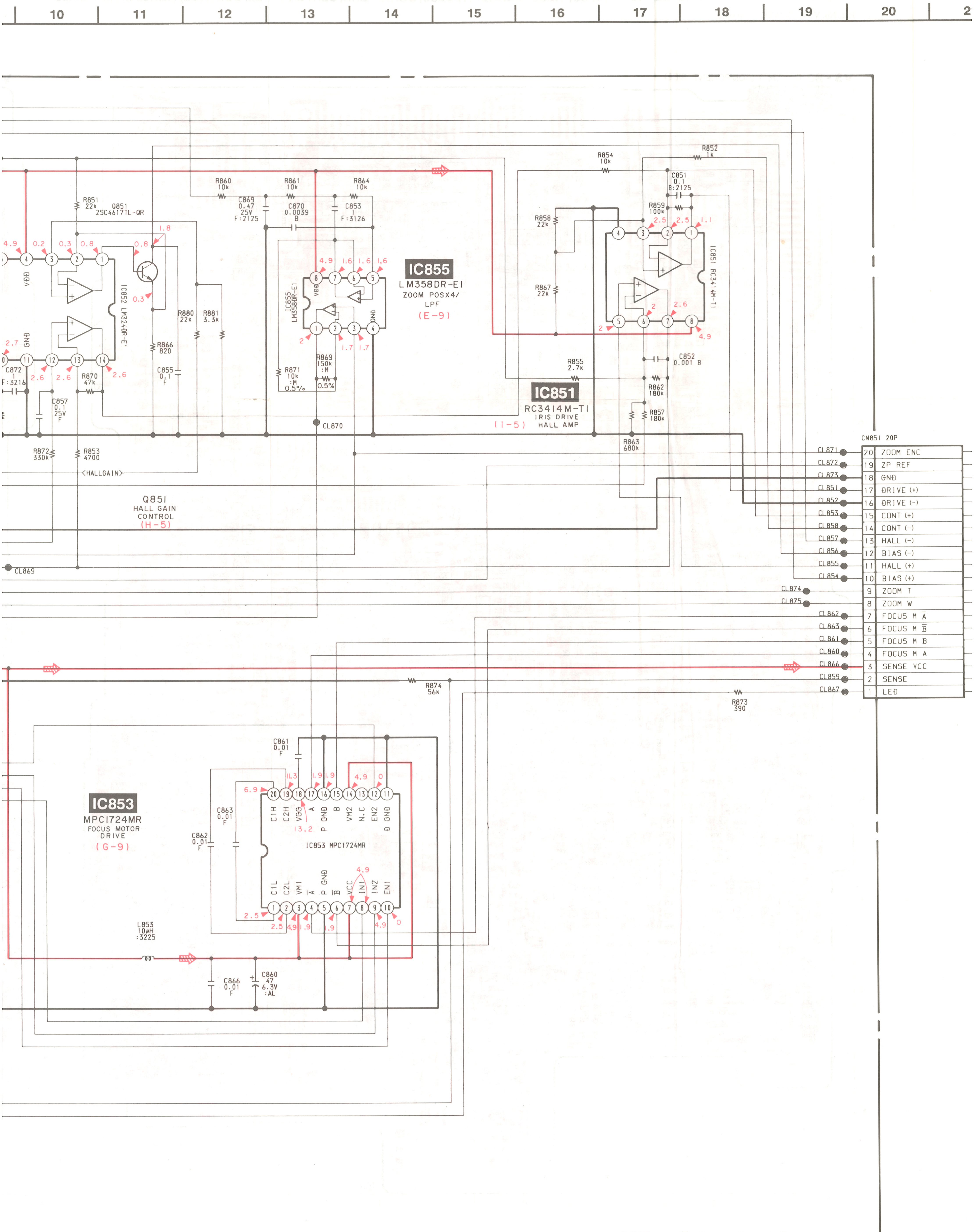
IC852 (G-5)
LM324DR-E1
③-① HALL GAIN CONTROL
⑤-⑦ HALL BIAS CONTROL
⑩-⑧ ZOOM REF
⑫-⑭ IRIS PWM
IC852 LM324DR-E1
VDD
GND
R868 10k
C854 0.01 F
R851 22k
Q851 2SC4617TL-QR
C856 0.01 F
C872 1 F:3216
R870 47k
R865 22k :M 0.5%
R877 27k :M 0.5%
C857 0.1 25V F
C858 0.01 F
C859 4.7 6.3V :TA A
R872 330k
R853 4700
R866 820
C855 0.1 F
HALLGAIN
Q851 HALL GAIN CONTROL (H-5)
CL869
L851 10μH :3225
TO VC-104 BOARD (2/3)
(See Page 102)
REF 2V
HALL GAIN
HALL OFS
ZOOM SPD
IRIS PWM
ZOOM POS
ZOOM POS X4
(W) ZOOM FWD
(T) ZOOM REV
HALL OUT
FOC END FAR
FOC END LED
ZP PWM
MT 5V
MT GND
CAM 5V
CAM GND
AV REF
FOC IN1
FOC IN2
FOC IN3
FOC IN4
I7
I3
I4
I5
H1
H2
H3
H4
H5
H6
H7
H8
H9
I2
I1
F4
F3
I6
G1
G2
G3
G4
IC853
MPC1724MR
FOCUS MOTOR DRIVE
(G-9)
L853 10μH :3225
IC854
LB1830MTE-L
ZOOM MOTOR DRIVE
(J-5)
IC854 LB1830MTE-L
VCC
OUT2
GND
OUT1
VSS
IN2
IN1
VM
VREF
VCONT
ZT
ZW
C864 1 16V F:3216
C868 0.1 25V F
R875 2.2 :3216
CL864
CL865
Q853 DRIVE CURRENT LIMITER (J-6)
Q853 XP6401-TX
R876 4.7k
0
2
4.9
0.2
0.3
0.8
1.8
0.3
2.7
2.6
4.8
1.2
4.2
09


10
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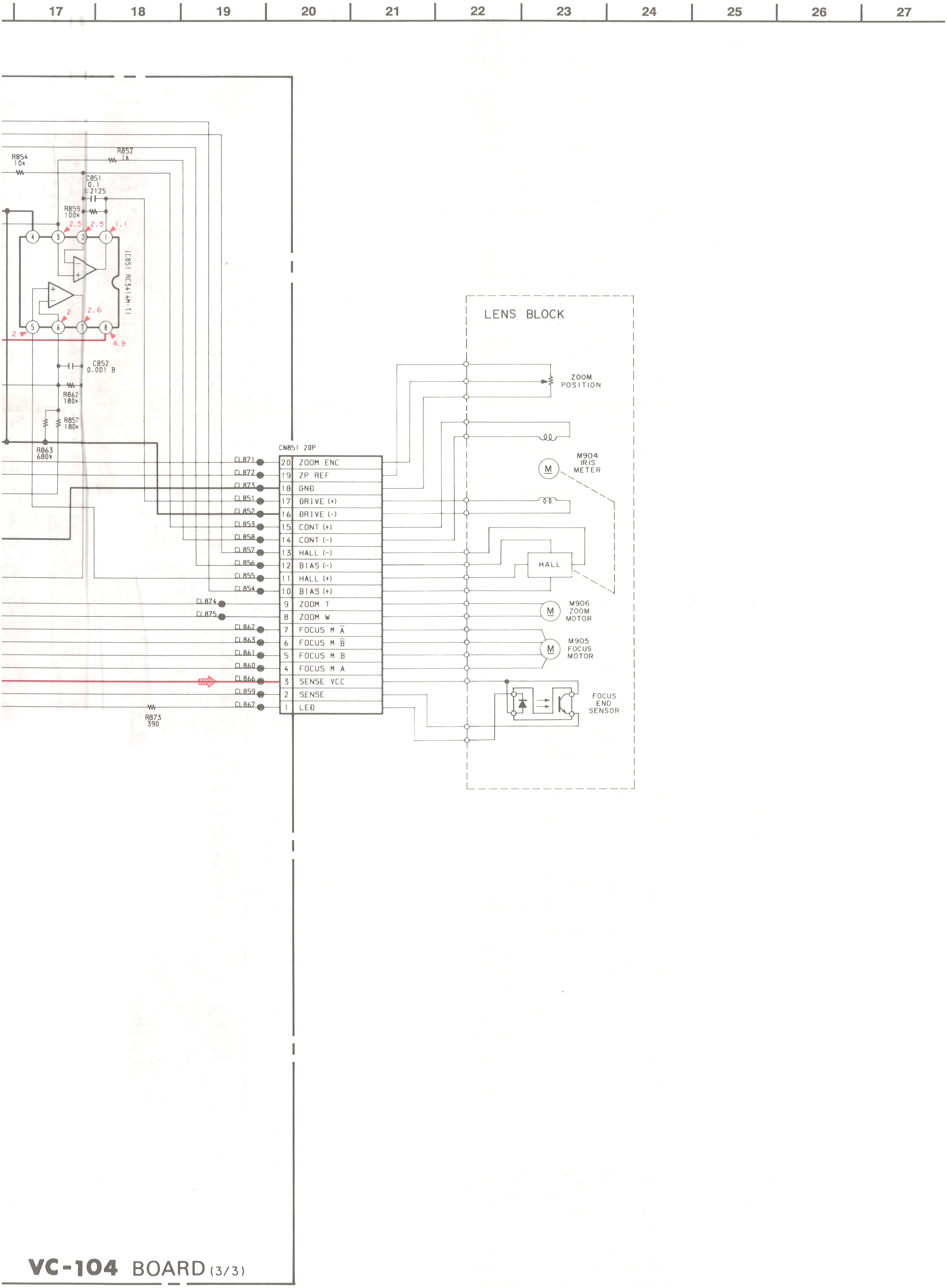
IC855
LM358DR-E1
ZOOM POSX4/
LPF
(E-9)
IC851
RC3414M-T1
IRIS DRIVE
HALL AMP
(I-5)
IC852 LM324DR-E1
R851 22k
Q851 2SC4617TL-QR
Q851
HALL GAIN
CONTROL
(H-5)
<HALLGAIN>
R860 10k
R861 10k
R864 10k
C869 0.47 25V F:2125
C870 0.0039 B
C853 1 F:3126
R880 22k
R881 3.3k
R866 820
C855 0.1 F
R870 47k
C857 0.1 25V F
C872 1 F:3216
R872 330k
R853 4700
R871 10k :M 0.5%
R869 150k :M 0.5%
CL870
CL869
R854 10k
R852 1k
C851 0.1 B:2125
R859 100k
R858 22k
R867 22k
R855 2.7k
C852 0.001 B
R862 180k
R857 180k
R863 680k
IC851 RC3414M-T1
IC855 LM358DR-E1
VDD
GND
CN851 20P
CL871 20 ZOOM ENC
CL872 19 ZP REF
CL873 18 GND
CL851 17 DRIVE (+)
CL852 16 DRIVE (-)
CL853 15 CONT (+)
CL858 14 CONT (-)
CL857 13 HALL (-)
CL856 12 BIAS (-)
CL855 11 HALL (+)
CL854 10 BIAS (+)
CL874 9 ZOOM T
CL875 8 ZOOM W
CL862 7 FOCUS M A
CL863 6 FOCUS M B
CL861 5 FOCUS M B
CL860 4 FOCUS M A
CL866 3 SENSE VCC
CL859 2 SENSE
CL867 1 LED
R874 56k
R873 390
IC853
MPC1724MR
FOCUS MOTOR
DRIVE
(G-9)
IC853 MPC1724MR
C1H C2H VGG A GND P B VM2 N.C EN2 GND D
C1L C2L VM1 A GND P B VCC IN1 IN2 EN1
C861 0.01 F
C863 0.01 F
C862 0.01 F
L853 10μH :3225
C866 0.01 F
C860 47 6.3V :AL
4.9 0.2 0.3 0.8 0.8 1.8 0.3 2.7 2.6 2.6 2.6
4.9 1.6 1.6 1.6 2 1.7 1.7
2.5 2.5 1.1 2 2.6 2 4.9
6.9 11.3 1.9 1.9 4.9 0 13.2 2.5 2.5 4.9 1.9 1.9 4.9 4.9 0

no mark : CAMERA REC mode

VC-104 BOARD (3/3)

VC-104 BOARD (3/3)


17
18
19
20
21
22
23
24
25
26
27
R854
10k
R852
1k
C851
0.1
B:2125
R859
100k
2.5
2.5
1.1
4
3
2
1
IC851 RC3414M-T1
5
6
7
8
2
2.6
2
4.9
C852
0.001 B
R862
180k
R857
180k
R863
680k
CN851 20P
CL871
CL872
CL873
CL851
CL852
CL853
CL858
CL857
CL856
CL855
CL854
CL874
CL875
CL862
CL863
CL861
CL860
CL866
CL859
CL867
R873
390
20 ZOOM ENC
19 ZP REF
18 GND
17 DRIVE (+)
16 DRIVE (-)
15 CONT (+)
14 CONT (-)
13 HALL (-)
12 BIAS (-)
11 HALL (+)
10 BIAS (+)
9 ZOOM T
8 ZOOM W
7 FOCUS M Ā
6 FOCUS M B̄
5 FOCUS M B
4 FOCUS M A
3 SENSE VCC
2 SENSE
1 LED
LENS BLOCK
ZOOM POSITION
M904
IRIS METER
M
HALL
M906
ZOOM MOTOR
M
M905
FOCUS MOTOR
M
FOCUS END SENSOR

* A-7062-875-A VS-83 BOARD, COMPLETE
****
(Ref. No 2, 000 Series)

< DIODE >

D001	8-719-800-76	DIODE	1SS226
D151	8-719-421-27	DIODE	MA728
D301	8-719-421-67	DIODE	MA132WK
D302	8-719-421-67	DIODE	MA132WK
D303	8-719-421-67	DIODE	MA132WK
D305	8-719-421-71	DIODE	MA132WA
D307	8-719-940-45	DIODE	DWA010
D494	8-719-421-67	DIODE	MA132WK
D495	8-719-421-67	DIODE	MA132WK
D561	8-719-421-67	DIODE	MA132WK
D562	8-719-421-67	DIODE	MA132WK

< IC >

IC001	8-752-033-38	IC	CXA1202R
IC002	8-752-033-38	IC	CXA1202R
IC003	8-752-053-21	IC	CXA1211M-T3
IC004	8-759-509-13	IC	XRU4052BF
IC005	8-759-998-32	IC	CXD-2107M
IC006	8-759-518-25	IC	BA401F
IC151	8-759-038-98	IC	MPC1726MR2
IC152	8-759-511-22	IC	CXA1448N
IC153	8-759-637-14	IC	M66321GP
IC154	8-759-823-90	IC	LB8110M
IC155	8-759-512-69	IC	S-81350HG-KD
IC156	8-752-833-38	IC	CXP80624-2440
IC157	8-759-518-29	IC	MCD004AM
IC158	8-759-031-84	IC	SC7S04F
IC159	8-759-823-65	IC	MCD002AM
IC160	8-759-999-02	IC	TL1596CDB
IC161	8-759-512-42	IC	CXA1481R
IC301	8-759-710-29	IC	NJM2235M
IC302	8-752-036-19	IC	CXA1207R
IC303	8-752-036-20	IC	CXA1208R
IC304	8-752-333-24	IC	CXL1506M
IC305	8-752-053-21	IC	CXA1211M
IC306	8-759-636-33	IC	CXA1452
IC307	8-759-635-27	IC	M62352GP
IC308	8-759-635-27	IC	M62352GP
IC310	8-759-605-61	IC	CXA1203N
IC494	8-759-031-84	IC	SC7S04F

< TRANSISTOR >

Q001	8-729-823-86	TRANSISTOR	2SA1745
Q002	8-729-823-86	TRANSISTOR	2SA1745
Q003	8-729-823-86	TRANSISTOR	2SA1745
Q004	8-729-823-86	TRANSISTOR	2SA1745
Q005	8-729-928-81	TRANSISTOR	DTC144EE
Q006	8-729-928-81	TRANSISTOR	DTC144EE
Q007	8-729-928-81	TRANSISTOR	DTC144EE
Q008	8-729-928-81	TRANSISTOR	DTC144EE
Q009	8-729-928-19	TRANSISTOR	2SA1774
Q010	8-729-928-19	TRANSISTOR	2SA1774
Q011	8-729-928-19	TRANSISTOR	2SA1774
Q012	8-729-928-19	TRANSISTOR	2SA1774
Q013	8-729-928-27	TRANSISTOR	DTA144EE
Q014	8-729-928-19	TRANSISTOR	2SA1774
Q016	8-729-216-22	TRANSISTOR	2SA1162
Q061	8-729-927-99	TRANSISTOR	2SC4617
Q062	8-729-928-19	TRANSISTOR	2SA1774
Q063	8-729-117-73	TRANSISTOR	2SC4178
Q064	8-729-928-19	TRANSISTOR	2SA1774
Q065	8-729-927-99	TRANSISTOR	2SC4617
Q066	8-729-928-81	TRANSISTOR	DTC144EE
Q067	8-729-117-73	TRANSISTOR	2SC4178
Q068	8-729-117-73	TRANSISTOR	2SC4178
Q070	8-729-117-73	TRANSISTOR	2SC4178
Q071	8-729-927-99	TRANSISTOR	2SC4617
Q072	8-729-928-81	TRANSISTOR	DTC144EE
Q073	8-729-928-19	TRANSISTOR	2SA1774
Q074	8-729-928-81	TRANSISTOR	DTC144EE
Q075	8-729-927-99	TRANSISTOR	2SC4617
Q076	8-729-928-81	TRANSISTOR	DTC144EE
Q151	8-729-928-27	TRANSISTOR	DTA144EE
Q152	8-729-928-90	TRANSISTOR	DTC114EE
Q301	8-729-101-07	TRANSISTOR	2SB798-DL
Q304	8-729-927-99	TRANSISTOR	2SC4617
Q305	8-729-928-81	TRANSISTOR	DTC144EE
Q306	8-729-823-16	TRANSISTOR	2SC4555
Q308	8-729-117-73	TRANSISTOR	2SC4178
Q309	8-729-117-73	TRANSISTOR	2SC4178
Q310	8-729-927-87	TRANSISTOR	2SA1579RR
Q311	8-729-928-19	TRANSISTOR	2SA1774
Q312	8-729-928-81	TRANSISTOR	DTC144EE
Q313	8-729-928-19	TRANSISTOR	2SA1774
Q314	8-729-928-19	TRANSISTOR	2SA1774
Q315	8-729-928-81	TRANSISTOR	DTC144EE
Q318	8-729-927-99	TRANSISTOR	2SC4617
Q319	8-729-927-99	TRANSISTOR	2SC4617
Q320	8-729-927-99	TRANSISTOR	2SC4617
Q324	8-729-427-72	TRANSISTOR	XP4501
Q325	8-729-928-19	TRANSISTOR	2SA1774
Q328	8-729-927-99	TRANSISTOR	2SC4617
Q329	8-729-927-99	TRANSISTOR	2SC4617
Q331	8-729-427-72	TRANSISTOR	XP4501
Q333	8-729-927-99	TRANSISTOR	2SC4617
Q334	8-729-427-72	TRANSISTOR	XP4501
Q336	8-729-807-87	TRANSISTOR	2SB1295-UL6
Q337	8-729-928-81	TRANSISTOR	DTC144EE
Q338	8-729-427-46	TRANSISTOR	XP4213
Q340	8-729-429-96	TRANSISTOR	2SB1219A
Q341	8-729-928-19	TRANSISTOR	2SA1774
Q343	8-729-429-50	TRANSISTOR	XP4312
Q344	8-729-927-99	TRANSISTOR	2SC4617
Q346	8-729-427-46	TRANSISTOR	XP4213
Q350	8-729-928-81	TRANSISTOR	DTC144EE
Q351	8-729-429-50	TRANSISTOR	XP4312
Q352	8-729-928-81	TRANSISTOR	DTC144EE
Q353	8-729-427-46	TRANSISTOR	XP4213
Q355	8-729-429-96	TRANSISTOR	2SB1219A
Q356	8-729-928-19	TRANSISTOR	2SA1774
Q357	8-729-928-19	TRANSISTOR	2SA1774
Q358	8-729-927-99	TRANSISTOR	2SC4617
Q359	8-729-927-99	TRANSISTOR	2SC4617
Q360	8-729-927-99	TRANSISTOR	2SC4617
Q361	8-729-928-19	TRANSISTOR	2SA1774
Q362	8-729-928-81	TRANSISTOR	DTC144EE
Q363	8-729-928-19	TRANSISTOR	2SA1774
Q364	8-729-928-11	TRANSISTOR	2SC4649TL
Q366	8-729-928-81	TRANSISTOR	DTC144EE
Q367	8-729-928-81	TRANSISTOR	DTC144EE
Q368	8-729-823-16	TRANSISTOR	2SC4555
Q370	8-729-823-16	TRANSISTOR	2SC4555
Q371	8-729-927-99	TRANSISTOR	2SC4617
Q373	8-729-928-81	TRANSISTOR	DTC144EE
Q374	8-729-927-99	TRANSISTOR	2SC4617
Q375	8-729-928-27	TRANSISTOR	DTA144EE
Q376	8-729-927-99	TRANSISTOR	2SC4617
Q377	8-729-928-81	TRANSISTOR	DTC144EE
Q380	8-729-928-27	TRANSISTOR	DTA144EE
Q397	8-729-927-99	TRANSISTOR	2SC4617
Q398	8-729-928-27	TRANSISTOR	DTA144EE
Q494	8-729-928-19	TRANSISTOR	2SA1774
Q495	8-729-927-99	TRANSISTOR	2SC4617
Q496	8-729-927-99	TRANSISTOR	2SC4617
Q497	8-729-927-99	TRANSISTOR	2SC4617
Q498	8-729-928-19	TRANSISTOR	2SA1774
Q499	8-729-927-99	TRANSISTOR	2SC4617
Q500	8-729-427-46	TRANSISTOR	XP4213
Q501	8-729-928-81	TRANSISTOR	DTC144EE
Q522	8-729-928-19	TRANSISTOR	2SA1774
Q523	8-729-928-81	TRANSISTOR	DTC144EE
Q524	8-729-429-50	TRANSISTOR	XP4312
Q527	8-729-117-73	TRANSISTOR	2SC4178
Q561	8-729-928-81	TRANSISTOR	DTC144EE
Q562	8-729-117-73	TRANSISTOR	2SC4178
Q563	8-729-117-73	TRANSISTOR	2SC4178
Q564	8-729-928-27	TRANSISTOR	DTA144EE
Q565	8-729-927-99	TRANSISTOR	2SC4617
Q566	8-729-928-81	TRANSISTOR	DTC144EE
Q567	8-729-928-27	TRANSISTOR	DTA144EE

- **For printed wiring boards.**
- VS-83 board is the printed wiring board which has four layers structure but inner two layers' patterns are omitted.
- ● : Through hole is omitted.

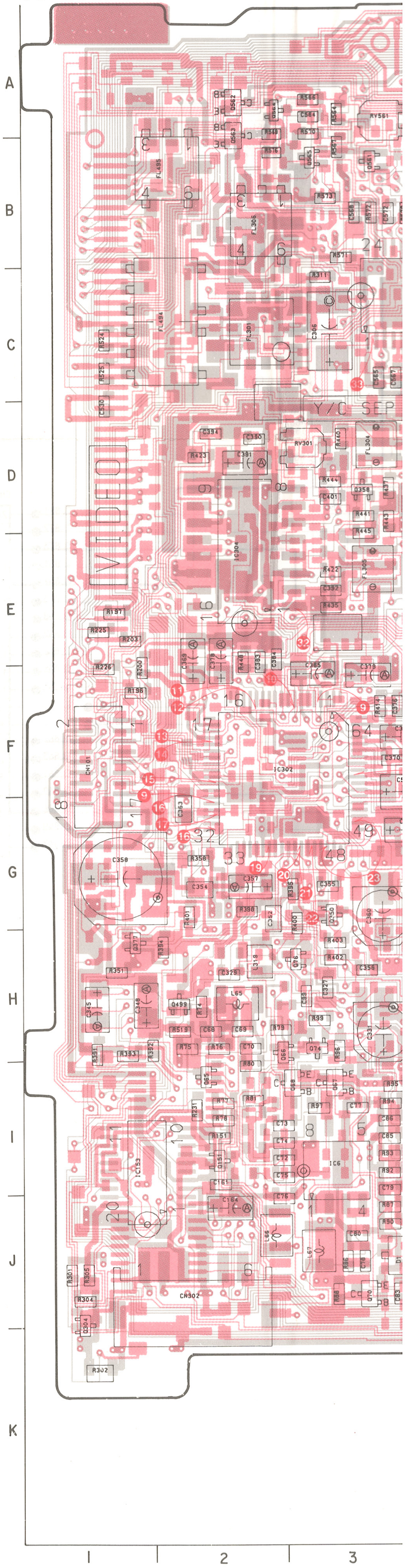
Caution:

Pattern face side: (Conductor Side)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Component side)	Parts on the parts face side seen from the pattern face are indicated.

VS-83 (REC/PB HEAD AMP, VIDEO SIGNAL PROCESS

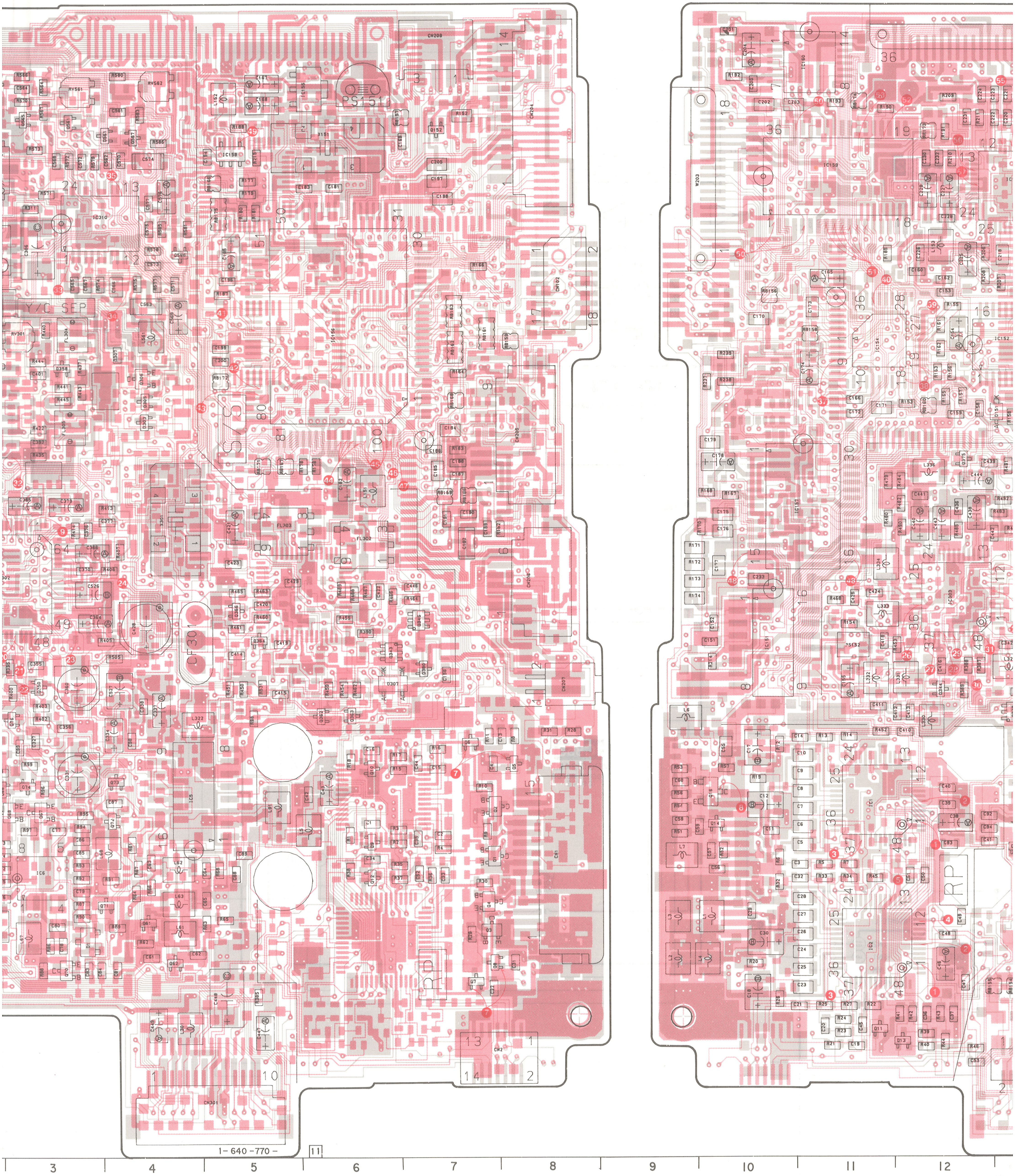
— Ref. No. VS-83 BOARD: 2000 series —

VS-83 BOARD (COMPONENT SIDE)



IGNAL PROCESS, VIDEO SIGNAL PROCESS, BOARD LINK, SERVO/SYSTEM CONTROL) PRINTED WIRING BOARDS

VS-83 BOARD (CONDUCTOR SIDE)



PS151
CN208
CN204
CN102
IC158
IC156
IC310
FL302
FL303
CN206
CN207
CN301
CN2
CN1
CF301
IC5
IC159
IC160
IC152
IC151
IC1
W203
1-640-770
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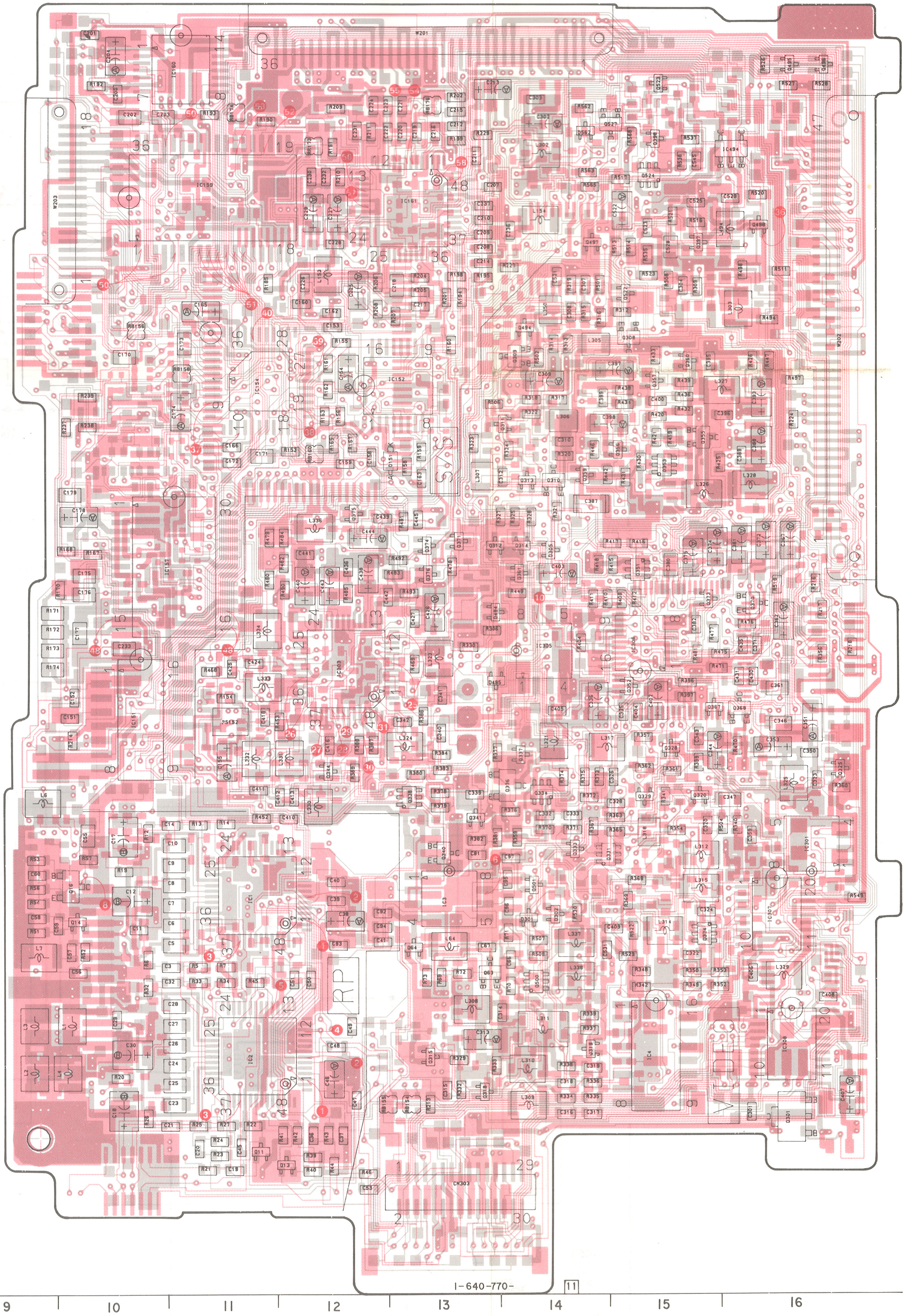
VS-83 BOARD (CONDUCTOR SIDE)


1-640-770-
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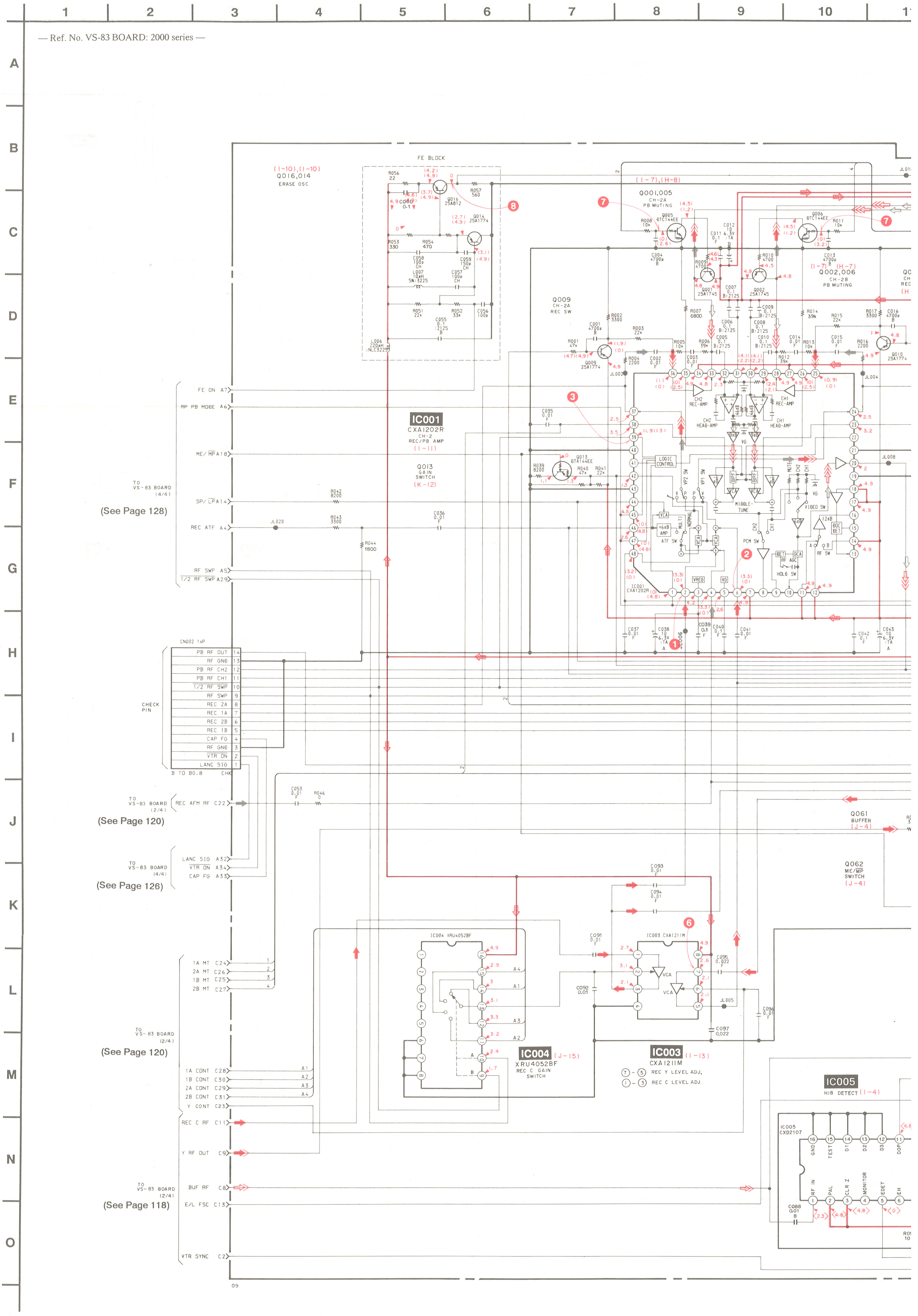
16

• Refer to page 109 for Printed Wiring Board.

— Ref. No. VS-83 BOARD: 2000 series —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A
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C
D
E
F
G
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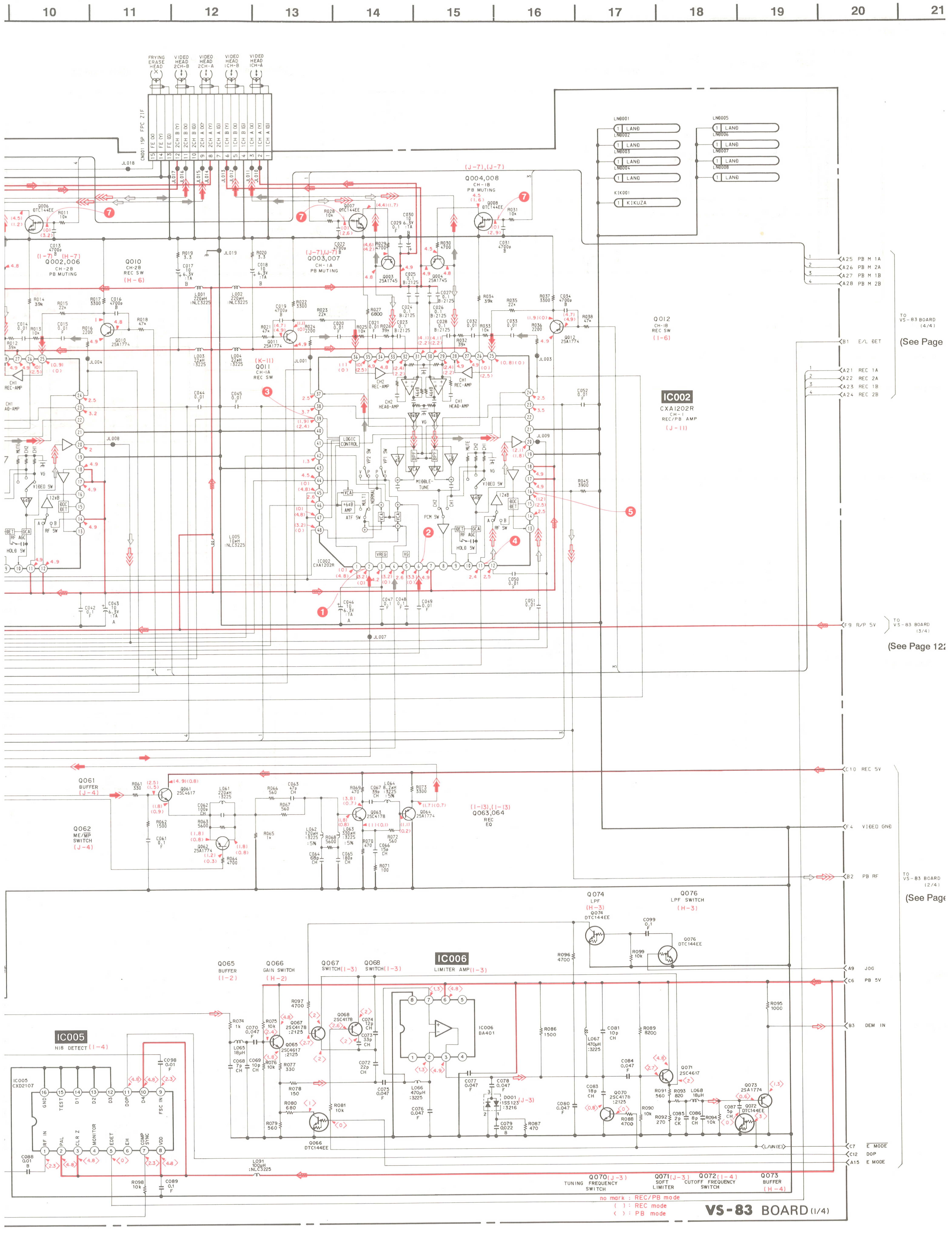
I
J
K
L
M
N
O
FE BLOCK
(1-10),(1-10)
Q016,014
ERASE OSC
Q001,005
CH-2A
PB MUTING
(1-7),(H-8)
Q006
DTC144EE
(1-7) (H-7)
Q002,006
CH-2B
PB MUTING
Q009
CH-2A
REC SW
IC001
CXA1202R
CH-2
REC/PB AMP
(1-11)
Q013
GAIN
SWITCH
(K-12)
CH2
REC-AMP
CH1
REC-AMP
CH2
HEAD-AMP
CH1
HEAD-AMP
LOGIC
CONTROL
MIDDLE-
TUNE
VIDEO SW
ATF SW
PCM SW
RF SW
HOLD SW
FE ON A7
RF PB MODE A6
ME/MP A18
SP/LP A14
REC ATF A4
RF SWP A5
1/2 RF SWP A29
TO
VS-83 BOARD
(4/4)
(See Page 128)
CN002 14P
PB RF OUT 14
RF GND 13
PB RF CH2 12
PB RF CH1 11
1/2 RF SWP 10
RF SWP 9
REC 2A 8
REC 1A 7
REC 2B 6
REC 1B 5
CAP FG 4
RF GND 3
VTR ON 2
LANC SIG 1
B TO B0.8
CHK
CHECK
PIN
TO
VS-83 BOARD
(2/4)
REC AFM RF C22
(See Page 120)
LANC SIG A32
VTR ON A34
CAP FG A33
TO
VS-83 BOARD
(4/4)
(See Page 126)
1A MT C24
2A MT C26
1B MT C25
2B MT C27
TO
VS-83 BOARD
(2/4)
(See Page 120)
1A CONT C28
1B CONT C30
2A CONT C29
2B CONT C31
Y CONT C23
REC C RF C11
Y RF OUT C9
TO
VS-83 BOARD
(2/4)
(See Page 118)
BUF RF C8
E/L FSC C13
VTR SYNC C2
IC004 XRU4052BF
IC004
XRU4052BF
(J-15)
REC C GAIN
SWITCH
IC003 CXA1211M
IC003
(1-13)
CXA1211M
⑦-⑤ REC Y LEVEL ADJ.
①-③ REC C LEVEL ADJ
Q061
BUFFER
(J-4)
Q062
ME/MP
SWITCH
(J-4)
IC005
H18 DETECT (1-4)
IC005
CXD2107
Q010
2SA1774
JL004
JL008
JL020
JL005
JL006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11
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16
17
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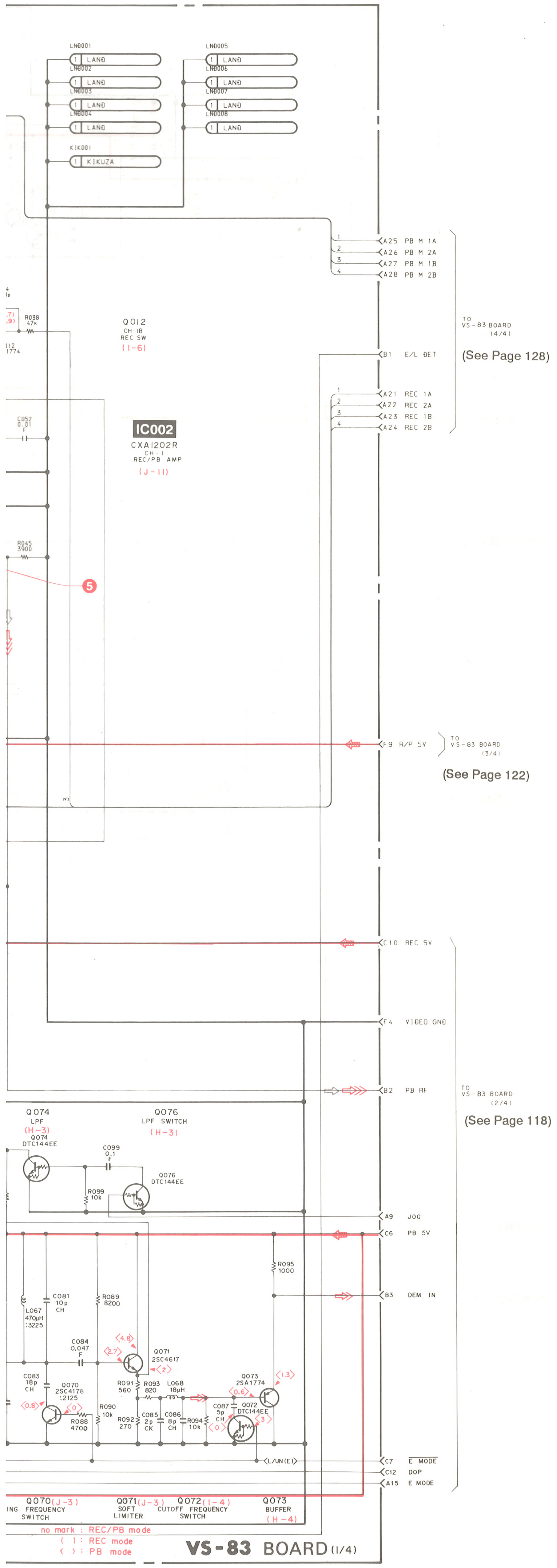
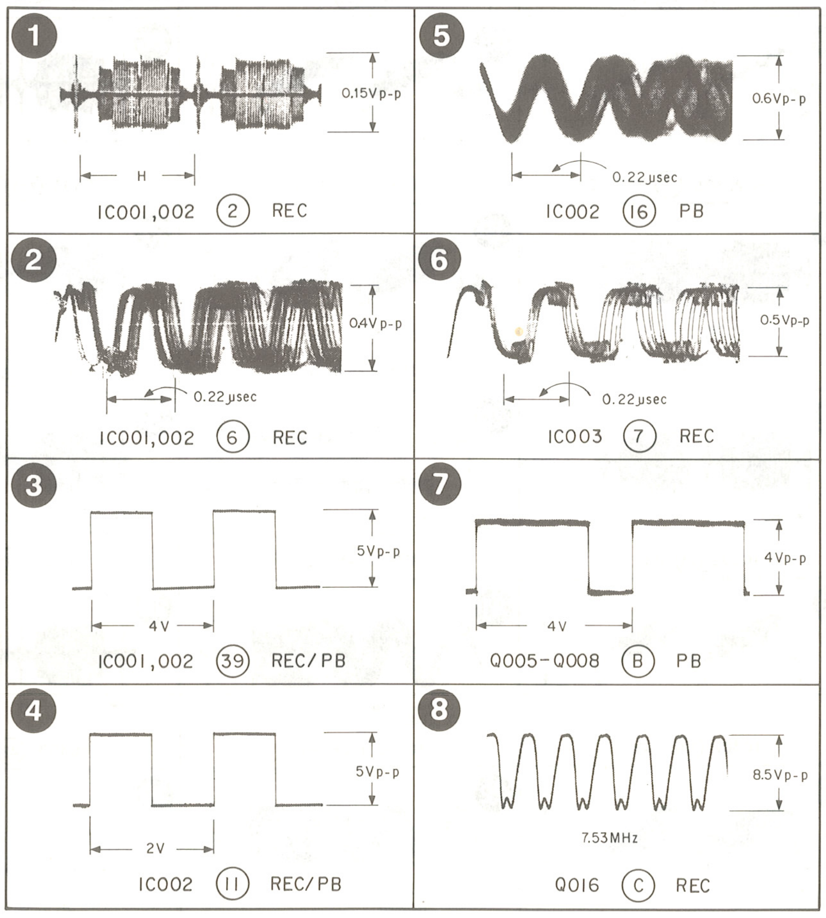
21
FRYING ERASE HEAD
VIDEO HEAD 2CH-B
VIDEO HEAD 2CH-A
VIDEO HEAD 1CH-B
VIDEO HEAD 1CH-A
CN001 15P FPC ZIF
LN0001
LN0002
LN0003
LN0004
LN0005
LN0006
LN0007
LN0008
LAND
KIK001
KIKUZA
Q004,008
CH-1B
PB MUTING
(J-7),(J-7)
Q006 DTC144EE
Q007 DTC144EE
Q008 DTC144EE
Q002,006
CH-2B
PB MUTING
(I-7),(H-7)
Q003,007
CH-1A
PB MUTING
(J-7),(J-7)
Q010
CH-2B
REC SW
(H-6)
Q011
CH-1A
REC SW
(K-11)
Q012
CH-1B
REC SW
(I-6)
Q003 2SA1745
Q004 2SA1745
Q010 2SA1774
Q011 2SA1774
Q012 2SA1774
IC002
CXA1202R
CH-1
REC/PB AMP
(J-11)
LOGIC CONTROL
CH2 REC-AMP
CH1 REC-AMP
CH2 HEAD-AMP
CH1 HEAD-AMP
MIDDLE-TUNE
PCM SW
ATF SW
VIDEO SW
RF SW
RF AGC
HOLD SW
A25 PB M 1A
A26 PB M 2A
A27 PB M 1B
A28 PB M 2B
B1 E/L DET
A21 REC 1A
A22 REC 2A
A23 REC 1B
A24 REC 2B
TO VS-83 BOARD (4/4)
(See Page
F9 R/P 5V
TO VS-83 BOARD (3/4)
(See Page 122
C10 REC 5V
F4 VIDEO GND
B2 PB RF
TO VS-83 BOARD (2/4)
(See Page
A9 JOG
C6 PB 5V
B3 DEM IN
C7 E MODE
C12 DOP
A15 E MODE
Q061 BUFFER (J-4)
Q061 2SC4617
Q062 ME/MP SWITCH (J-4)
Q062 2SA1774
Q063,064 REC EQ (I-13),(I-13)
Q063 2SC4178
Q064 2SA1774
Q074 LPF (H-3)
Q074 DTC144EE
Q076 LPF SWITCH (H-3)
Q076 DTC144EE
Q065 BUFFER (I-2)
Q066 GAIN SWITCH (H-2)
Q067 SWITCH (I-3)
Q068 SWITCH (I-3)
IC006 LIMITER AMP (I-3)
IC006 BA401
IC005 H18 DETECT (I-4)
IC005 CXD2107
GND
TEST
D1
D2
D3
DOP
D4
FSC IN
RF IN
PAL
CLR Z
MONITOR
EDET
EH
COMP SYNC
VDD
D001 1SS123 :3216 (J-3)
Q065 2SC4617
Q066 DTC144EE
Q067 2SC4178
Q068 2SC4178
Q070 2SC4178
Q071 2SC4617
Q072 DTC144EE
Q073 2SA1774
Q070 (J-3) TUNING FREQUENCY SWITCH
Q071 (J-3) SOFT LIMITER
Q072 (I-4) CUTOFF FREQUENCY SWITCH
Q073 BUFFER (H-4)
no mark : REC/PB mode
( ) : REC mode
< > : PB mode
VS-83 BOARD (1/4)


LN8001
LAND
LN8002
LAND
LN8003
LAND
LN8004
LAND
LN8005
LAND
LN8006
LAND
LN8007
LAND
LN8008
LAND
KIK001
KIKUZA
A25 PB M 1A
A26 PB M 2A
A27 PB M 1B
A28 PB M 2B
TO VS-83 BOARD (4/4)
(See Page 128)
Q012
CH-1B
REC SW
(I-6)
R038
47k
B1 E/L DET
A21 REC 1A
A22 REC 2A
A23 REC 1B
A24 REC 2B
C052
0.01
F
IC002
CXA1202R
CH-1
REC/PB AMP
(J-11)
R045
3900
5
F9 R/P 5V
TO VS-83 BOARD (3/4)
(See Page 122)
C10 REC 5V
F4 VIDEO GND
B2 PB RF
TO VS-83 BOARD (2/4)
(See Page 118)
Q074
LPF
(H-3)
Q074
DTC144EE
Q076
LPF SWITCH
(H-3)
C099
0.1
F
Q076
DTC144EE
R099
10k
A9 JOG
C6 PB 5V
R095
1000
B3 DEM IN
L067
470μH
:3225
C081
10p
CH
R089
8200
C084
0.047
F
〈4.8〉
〈2.7〉
〈2〉
Q071
2SC4617
C083
18p
CH
Q070
2SC4178
:2125
〈0.8〉
〈0〉
R088
4700
R090
10k
R091
560
R093
820
L068
18μH
R092
270
C085
2p
CK
C086
8p
CH
R094
10k
C087
5p
CH
Q072
DTC144EE
〈0〉
〈3〉
Q073
2SA1774
〈0.6〉
〈1.3〉
〈L/UN(E)〉
C7 E MODE
C12 DOP
A15 E MODE
ING FREQUENCY SWITCH
Q070(J-3) FREQUENCY SWITCH
Q071(J-3) SOFT LIMITER
Q072(I-4) CUTOFF FREQUENCY SWITCH
Q073 BUFFER (H-4)
no mark : REC/PB mode
( ) : REC mode
〈 〉 : PB mode
VS-83 BOARD (1/4)

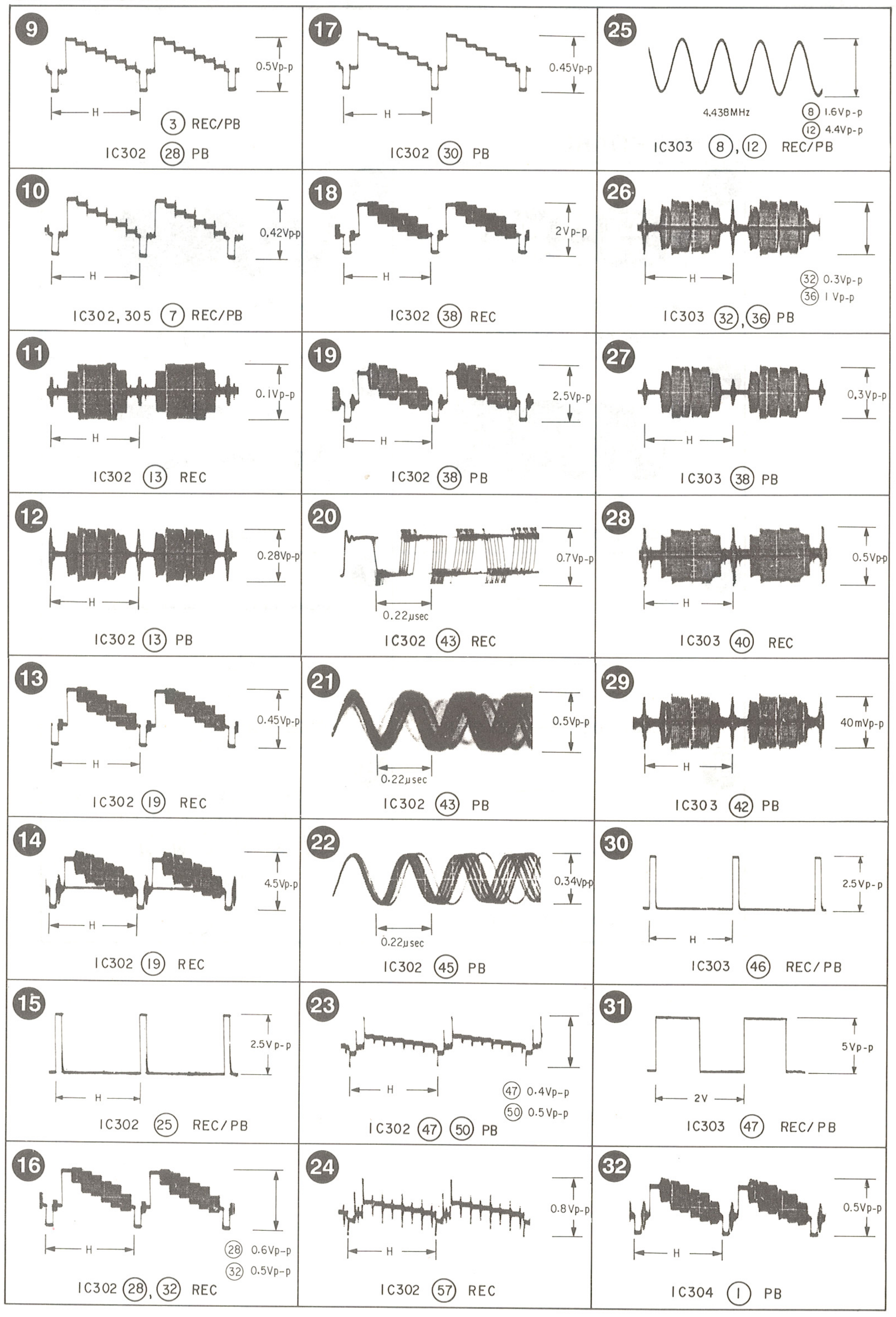
VS-83 BOARD (1/4)



- SIGNAL PATH

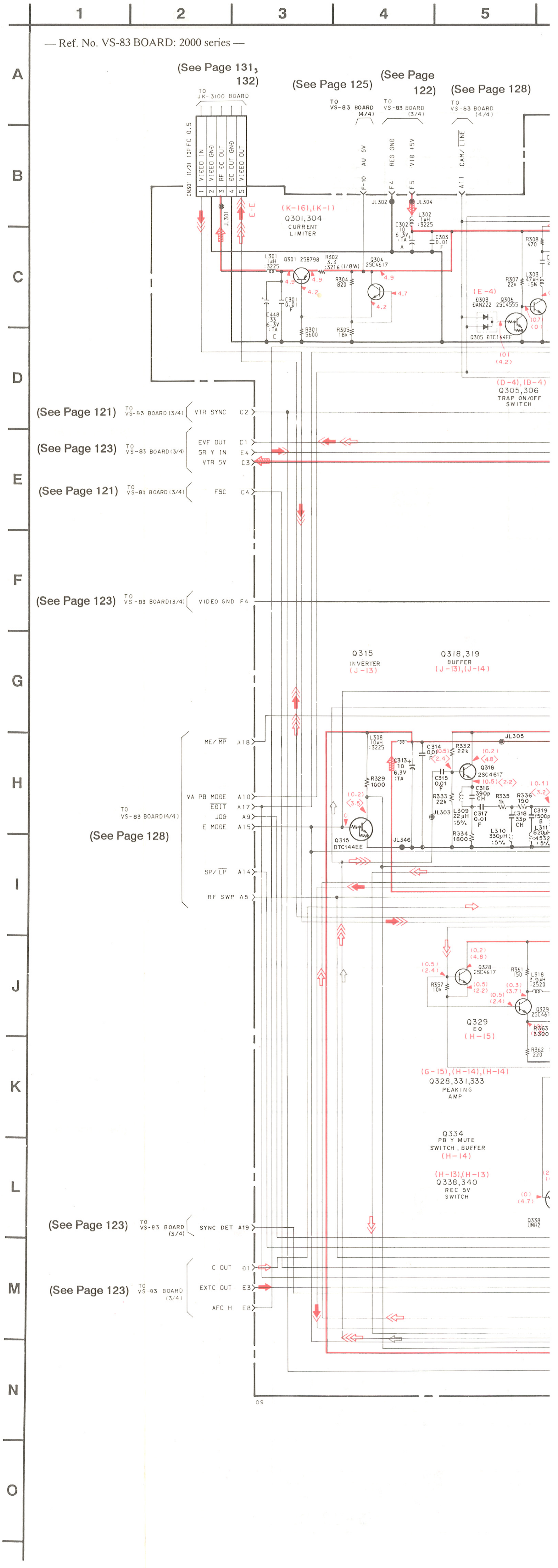
	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC	➡	➡➡	➡➡➡	➡
PB		⇨⇨	⇨⇨⇨	⇨

VS-83 BOARD (2/4)



VS-83 (VIDEO SIGNAL PROCESS) SCHEMATIC DIAGRAM

• Refer to page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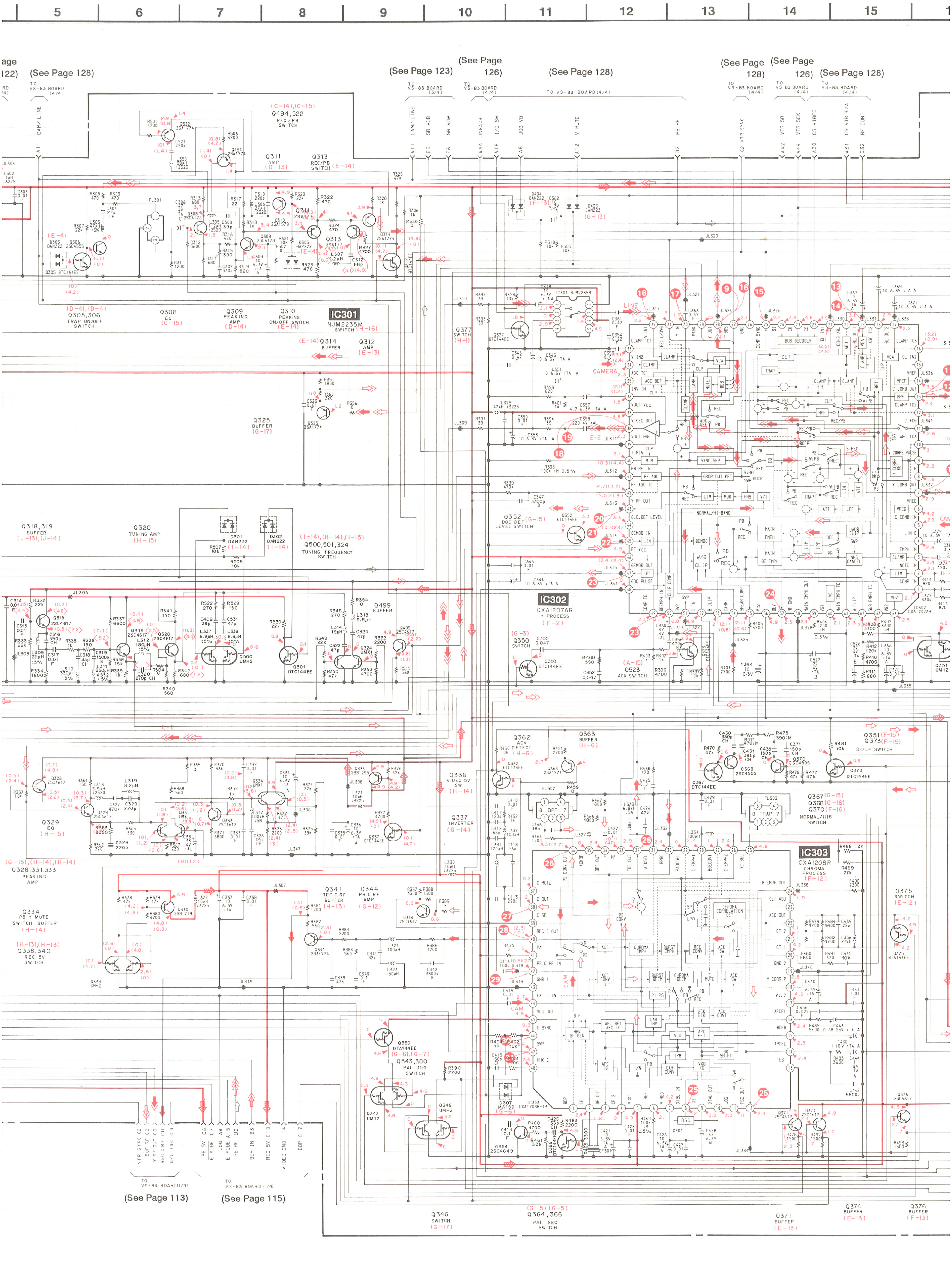
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
— Ref. No. VS-83 BOARD: 2000 series —
(See Page 131, 132)
TO JK-3100 BOARD
(See Page 125)
TO VS-83 BOARD (4/4)
(See Page 122)
TO VS-83 BOARD (3/4)
(See Page 128)
TO VS-83 BOARD (4/4)
CN301 (1/2) 10P FC 0.5
VIDEO IN
VIDEO GND
RF DC OUT
DC OUT GND
VIDEO OUT
AU 5V
REG GND
VIB +5V
CAM/LINE
(K-16),(K-1)
Q301,304
CURRENT LIMITER
Q301 2SB798
Q304 2SC4617
(E-4)
Q303 DAN222
Q306 2SC4559
Q305 DTC144EE
(D-4),(D-4)
Q305,306
TRAP ON/OFF SWITCH
(See Page 121)
VTR SYNC C2
(See Page 123)
EVF OUT C1
SR Y IN E4
VTR 5V C3
FSC C4
VIDEO GND F4
Q315 INVERTER (J-13)
Q318,319 BUFFER (J-13),(J-14)
ME/MP A18
VA PB MODE A10
EDIT A17
JOG A9
E MODE A15
SP/LP A14
RF SWP A5
Q315 DTC144EE
Q316 2SC4617
Q328 2SC4617
Q329 EQ (H-15)
(G-15),(H-14),(H-14)
Q328,331,333
PEAKING AMP
Q334
PB Y MUTE SWITCH, BUFFER (H-14)
(H-13),(H-13)
Q338,340
REC 5V SWITCH
SYNC DET A19
C OUT B1
EXTC OUT E3
AFC H E8

• SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC	➡	➡➡	➡➡➡	➡
PB	⇨	⇨⇨	⇨⇨⇨	⇨

- Refer to page 109 for Printed Wiring Board.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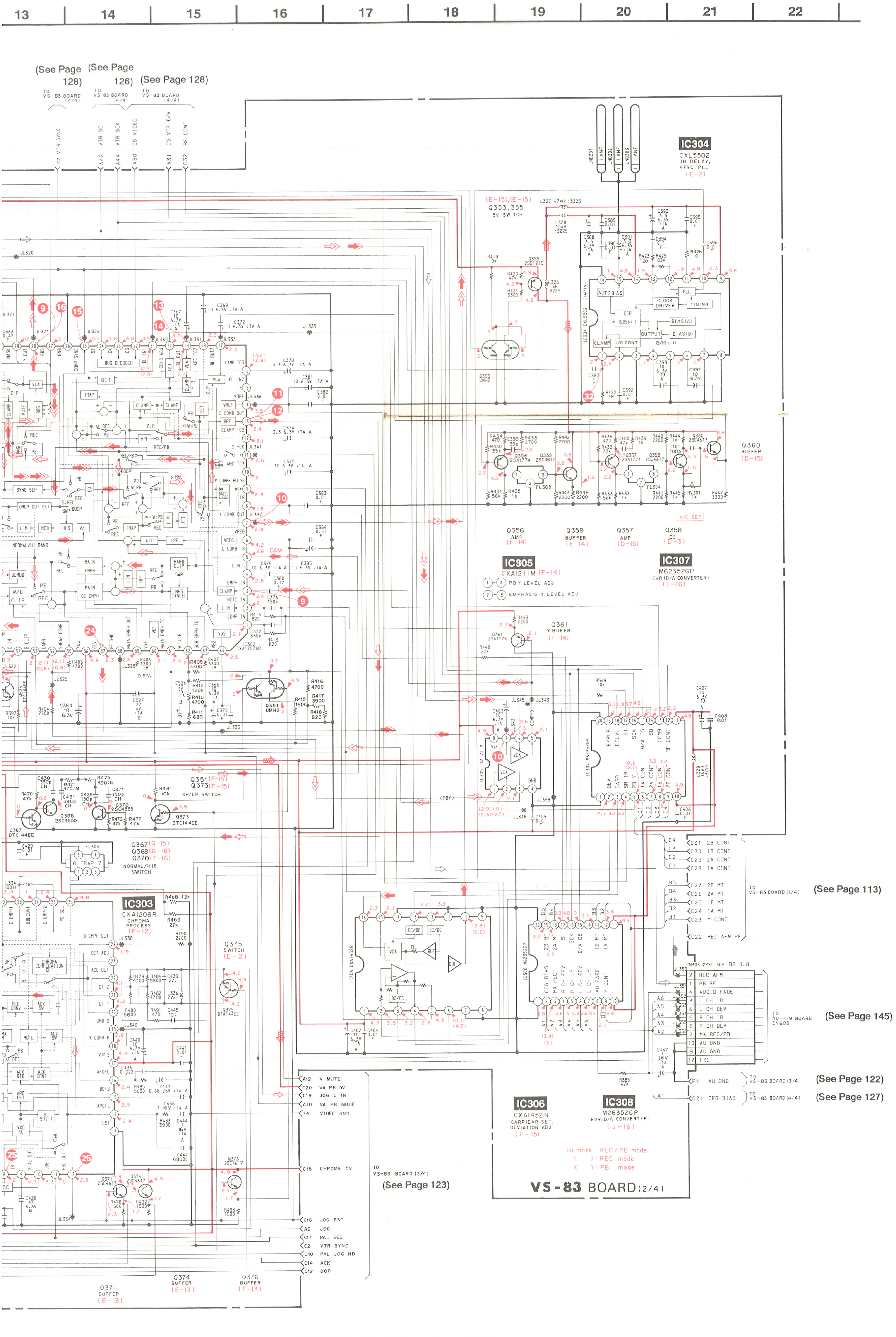
(See Page 128)
(See Page 123)
(See Page 126)
(See Page 128)
(See Page 128)
(See Page 126)
(See Page 128)
TO VS-83 BOARD (4/4)
TO VS-83 BOARD (3/4)
CAM/LINE
SR VDB
SR VDW
LINBACH
I/O SW
JOG VD
V MUTE
PB RF
C2 VTR SYNC
VTR SO
VTR SCK
CS VIDEO
CS VTR D/A
RF CONT
Q494,522 REC/PB SWITCH (C-14),(C-15)
Q311 AMP (D-13)
Q313 REC/PB SWITCH (E-14)
Q305,306 TRAP ON/OFF SWITCH (D-4),(D-4)
Q308 EQ (C-15)
Q309 PEAKING AMP (D-14)
Q310 PEAKING ON/OFF SWITCH (E-14)
IC301 NJM2235M SWITCH (H-16)
Q314 BUFFER (E-14)
Q312 AMP (E-13)
Q377 SWITCH (H-1)
Q325 BUFFER (G-17)
Q318,319 BUFFER (J-13),(J-14)
Q320 TUNING AMP (H-15)
Q500,501,324 TUNING FREQUENCY SWITCH (I-14),(H-14),(I-15)
Q499 BUFFER
Q352 DOC DET LEVEL SWITCH (G-15)
IC302 CXA1207AR Y PROCESS (F-2)
Q350 SWITCH (G-3)
Q523 ACK SWITCH (A-15)
Q351 Q373 SP/LP SWITCH (F-15)
Q362 ACK DETECT (H-6)
Q363 BUFFER (H-6)
Q336 VIDEO 5V SW (H-14)
Q337 INVERTER (G-14)
Q329 EQ (H-15)
Q328,331,333 PEAKING AMP (G-15),(H-14),(H-14)
Q334 PB Y MUTE SWITCH, BUFFER (H-14)
Q338,340 REC 5V SWITCH (H-13),(H-13)
Q341 REC C RF BUFFER (H-13)
Q344 PB C RF AMP (G-12)
Q367 Q368 Q370 NORMAL/H18 SWITCH (G-15),(G-16),(F-16)
IC303 CXA1208R CHROMA PROCESS (F-12)
Q375 SWITCH (E-12)
Q380 Q343,380 PAL JOG SWITCH (G-6),(G-7)
Q346 SWITCH (G-17)
Q364,366 PAL SEC SWITCH (G-5),(G-5)
Q371 BUFFER (E-13)
Q374 BUFFER (E-13)
Q376 BUFFER (F-13)
VTR SYNC C2
BUF RF C8
Y RF OUT C9
REC C RF C11
E/L FSC C13
PB SV C6
E MODE C7
JOG A9
E MODE A15
PB RF B2
BEM IN B3
REC SV C10
VIDEO GND F4
DOP C12
TO VS-83 BOARD (1/4)
(See Page 113)
(See Page 115)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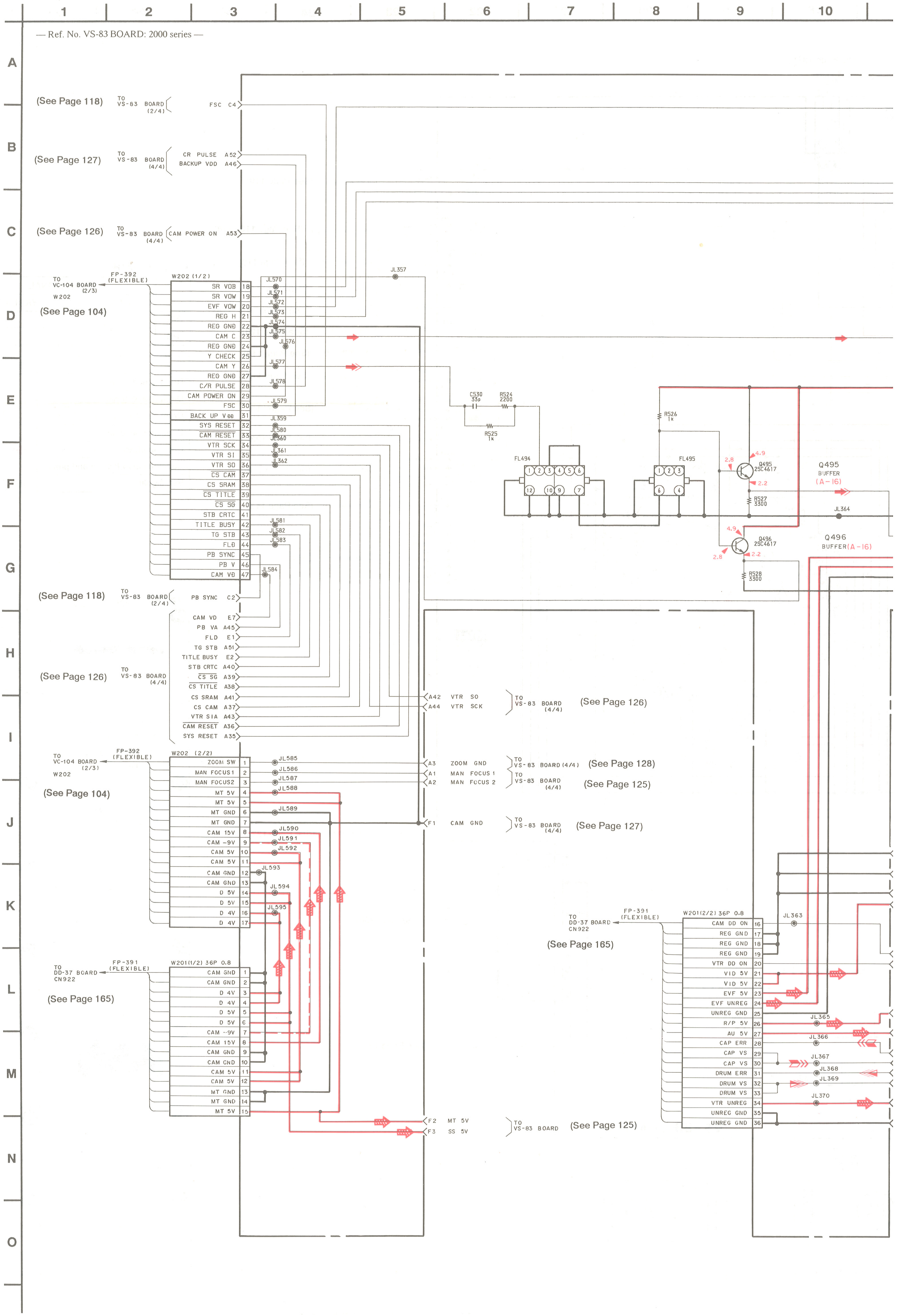
(See Page 128)
TO VS-83 BOARD (4/4)
(See Page 126)
TO VS-83 BOARD (4/4)
(See Page 128)
TO VS-83 BOARD (4/4)
C2 VTR SYNC
A42 VTR SO
A44 VTR SCK
A30 CS VIDEO
A31 CS VTR D/A
C32 RF CONT
IC304
CXL5502
1H DELAY, 4FSC PLL
(E-2)
(E-15),(E-15)
Q353,355
5V SWITCH
AUTO BIAS
PLL
CLOCK DRIVER
TIMING
CCD (905bit)
BIAS(A)
OUTPUT
BIAS(B)
CLAMP
I/O CONT
(S/H bit)
Q360
BUFFER
(D-15)
FL305
FL304
Y/C SEP
Q356
AMP
(E-14)
Q359
BUFFER
(E-14)
Q357
AMP
(D-15)
Q358
EQ
(D-3)
IC305
CXA1211M (F-14)
① - ③ PBY LEVEL ADJ
⑦ - ⑤ EMPHASIS Y LEVEL ADJ
IC307
M62352GP
EVR (D/A CONVERTER)
(I-16)
Q361
Y BUEER
(F-14)
IC302
CXA1207AR
Q351
UMH2
Q351 (F-15)
Q373 (F-15)
SP/LP SWITCH
Q367
DTC144EE
Q368
2SC4555
Q370
2SC4555
Q373
DTC144EE
Q367 (G-15)
Q368 (G-16)
Q370 (F-16)
NORMAL/HI8 SWITCH
FL303
B TRAP 7
IC303
CXA1208R
CHROMA PROCESS
(F-12)
Q375
SWITCH
(E-12)
Q375
DTA144EE
IC306 CXA1452N
IC308 M62352GP
CN303 (2/2) 30P BB 0.8
C31 2B CONT
C30 1B CONT
C29 2A CONT
C28 1A CONT
C27 2B MT
C26 2A MT
C25 1B MT
C24 1A MT
C23 Y CONT
C22 REC AFM RF
TO VS-83 BOARD (1/4)
(See Page 113)
REC AFM
PB RF
AUDIO FADE
L CH IR
L CH DEV
R CH IR
R CH DEV
MX REC/PB
AU GND
AU GND
FSC
TO AU-119 BOARD CN603
(See Page 145)
F4 AU GND
TO VS-83 BOARD (3/4)
(See Page 122)
C21 CFG BIAS
TO VS-83 BOARD (4/4)
(See Page 127)
A12 V MUTE
C20 VA PB 5V
C19 JOG C IN
A10 VA PB MODE
F4 VIDEO GND
C16 CHROMA 5V
TO VS-83 BOARD (3/4)
(See Page 123)
IC306
CXA1452N
CARRIEAR SET, DEVIATION ADJ
(F-15)
IC308
M26352GP
EVR (D/A CONVERTER)
(J-16)
no mark : REC/PB mode
( ) : REC mode
( ) : PB mode
VS-83 BOARD (2/4)
C16 JOG FSC
A9 JOG
C17 PAL SEC
C2 VTR SYNC
D10 PAL JOG HD
C14 ACK
C12 DOP
Q371
BUFFER
(E-13)
Q374
BUFFER
(E-13)
Q376
BUFFER
(F-13)

VS-83 (VIDEO SIGNAL PROCESS, BOARD LINK) SCHEMATIC DIAGRAM

• Refer to page 109 for Printed Wiring Board.

— Ref. No. VS-83 BOARD: 2000 series —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A
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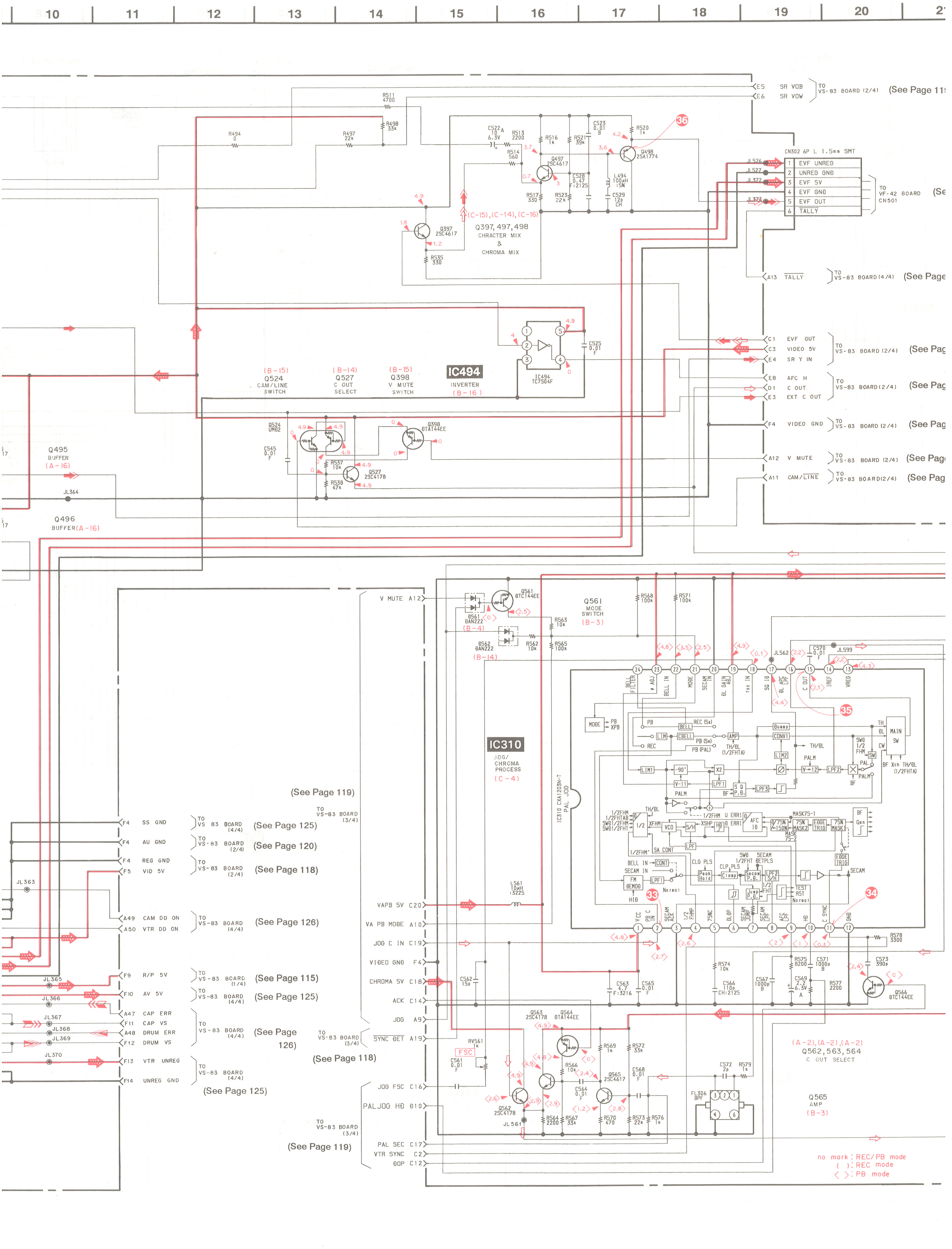
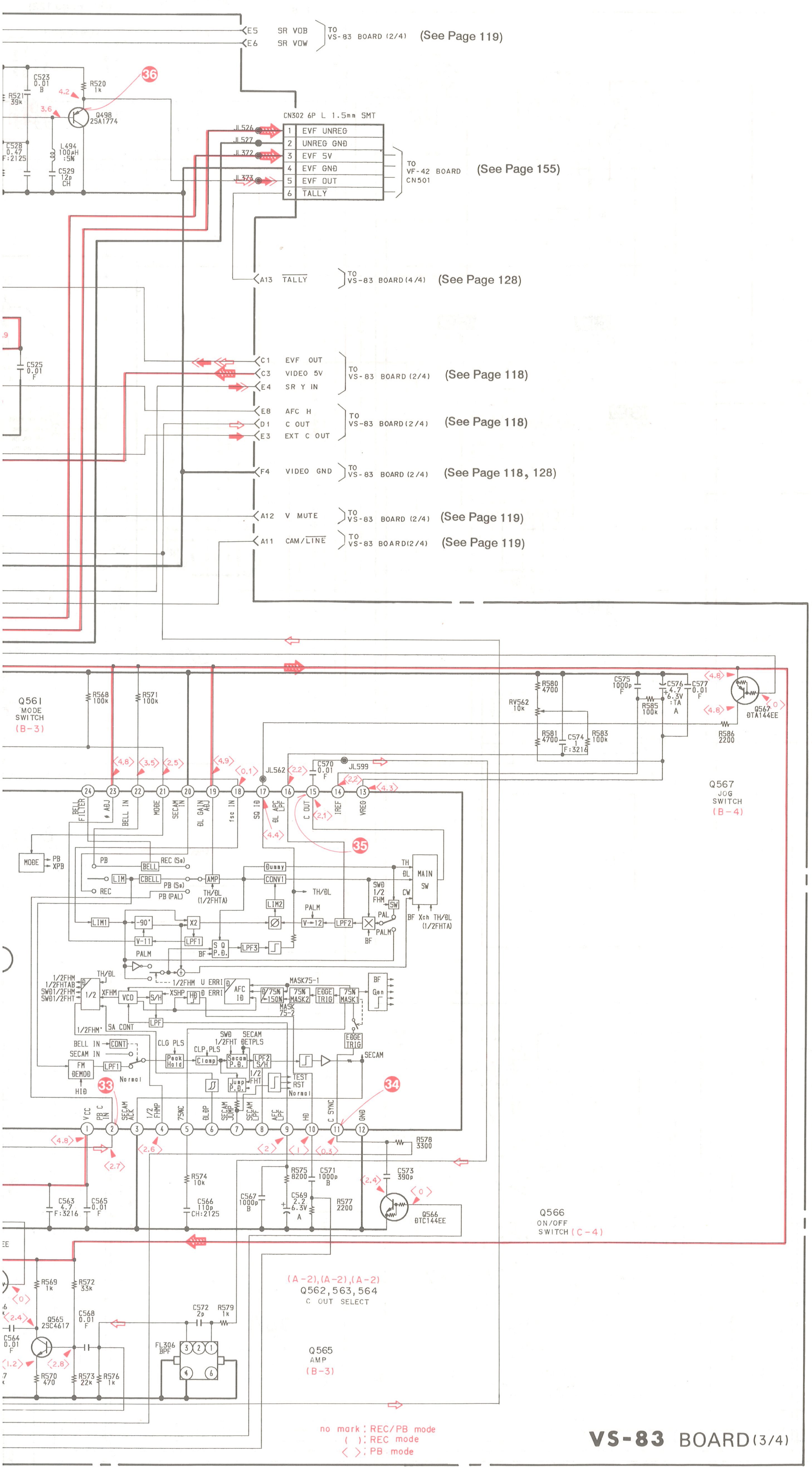
J
K
L
M
N
O
(See Page 118)
TO VS-83 BOARD (2/4)
FSC C4
(See Page 127)
TO VS-83 BOARD (4/4)
CR PULSE A52
BACKUP VDD A46
(See Page 126)
TO VS-83 BOARD (4/4)
CAM POWER ON A53
TO VC-104 BOARD (2/3)
W202
FP-392 (FLEXIBLE)
(See Page 104)
W202 (1/2)
SR VDB 18
SR VDW 19
EVF VDW 20
REG H 21
REG GND 22
CAM C 23
REG GND 24
Y CHECK 25
CAM Y 26
REG GND 27
C/R PULSE 28
CAM POWER ON 29
FSC 30
BACK UP VDD 31
SYS RESET 32
CAM RESET 33
VTR SCK 34
VTR SI 35
VTR SO 36
CS CAM 37
CS SRAM 38
CS TITLE 39
CS SG 40
STB CRTC 41
TITLE BUSY 42
TG STB 43
FLD 44
PB SYNC 45
PB V 46
CAM VD 47
JL570
JL571
JL572
JL573
JL574
JL575
JL576
JL577
JL578
JL579
JL359
JL580
JL360
JL361
JL362
JL581
JL582
JL583
JL584
JL357
C530 33p
R524 2200
R525 1k
R526 1k
FL494
FL495
Q495 2SC4617
Q495 BUFFER (A–16)
Q496 2SC4617
Q496 BUFFER (A–16)
R527 3300
R528 3300
JL364
4.9
2.8
2.2
(See Page 118)
TO VS-83 BOARD (2/4)
PB SYNC C2
CAM VD E7
PB VA A45
FLD E1
TG STB A51
TITLE BUSY E2
STB CRTC A40
CS SG A39
CS TITLE A38
CS SRAM A41
CS CAM A37
VTR SIA A43
CAM RESET A36
SYS RESET A35
(See Page 126)
TO VS-83 BOARD (4/4)
A42 VTR SO
A44 VTR SCK
TO VS-83 BOARD (4/4)
(See Page 126)
TO VC-104 BOARD (2/3)
W202
FP-392 (FLEXIBLE)
(See Page 104)
W202 (2/2)
ZOOM SW 1
MAN FOCUS1 2
MAN FOCUS2 3
MT 5V 4
MT 5V 5
MT GND 6
MT GND 7
CAM 15V 8
CAM –9V 9
CAM 5V 10
CAM 5V 11
CAM GND 12
CAM GND 13
D 5V 14
D 5V 15
D 4V 16
D 4V 17
JL585
JL586
JL587
JL588
JL589
JL590
JL591
JL592
JL593
JL594
JL595
A3 ZOOM GND
A1 MAN FOCUS 1
A2 MAN FOCUS 2
TO VS-83 BOARD (4/4)
(See Page 128)
TO VS-83 BOARD (4/4)
(See Page 125)
F1 CAM GND
TO VS-83 BOARD (4/4)
(See Page 127)
TO DD-37 BOARD CN922
FP-391 (FLEXIBLE)
(See Page 165)
W201(1/2) 36P 0.8
CAM GND 1
CAM GND 2
D 4V 3
D 4V 4
D 5V 5
D 5V 6
CAM –9V 7
CAM 15V 8
CAM GND 9
CAM GND 10
CAM 5V 11
CAM 5V 12
MT GND 13
MT GND 14
MT 5V 15
F2 MT 5V
F3 SS 5V
TO VS-83 BOARD
(See Page 125)
TO DD-37 BOARD CN922
FP-391 (FLEXIBLE)
(See Page 165)
W201(2/2) 36P 0.8
CAM DD ON 16
REG GND 17
REG GND 18
REG GND 19
VTR DD ON 20
VID 5V 21
VID 5V 22
EVF 5V 23
EVF UNREG 24
UNREG GND 25
R/P 5V 26
AU 5V 27
CAP ERR 28
CAP VS 29
CAP VS 30
DRUM ERR 31
DRUM VS 32
DRUM VS 33
VTR UNREG 34
UNREG GND 35
UNREG GND 36
JL363
JL365
JL366
JL367
JL368
JL369
JL370

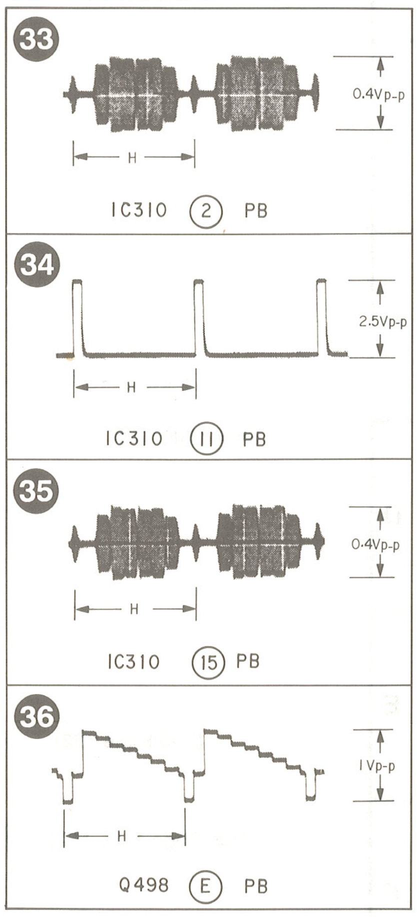

10
11
12
13
14
15
16
17
18
19
20
Q397, 497, 498
CHARACTER MIX
&
CHROMA MIX
(C-15),(C-14),(C-16)
Q397 2SC4617
Q497 2SC4617
Q498 2SA1774
CN302 6P L 1.5mm SMT
1 EVF UNREG
2 UNREG GND
3 EVF 5V
4 EVF GND
5 EVF OUT
6 TALLY
TO VF-42 BOARD CN501
E5 SR VOB
E6 SR VOW
TO VS-83 BOARD (2/4)
A13 TALLY
TO VS-83 BOARD (4/4)
C1 EVF OUT
C3 VIDEO 5V
E4 SR Y IN
E8 AFC H
D1 C OUT
E3 EXT C OUT
F4 VIDEO GND
A12 V MUTE
A11 CAM/LINE
IC494
INVERTER
(B-16)
IC494 TC7S04F
(B-15) Q524 CAM/LINE SWITCH
(B-14) Q527 C OUT SELECT
(B-15) Q398 V MUTE SWITCH
Q524 UMB2
Q527 2SC4178
Q398 DTA144EE
Q495 BUFFER (A-16)
Q496 BUFFER (A-16)
JL364
IC310
JOG/ CHROMA PROCESS
(C-4)
IC310 CXA1203N-T PAL JOG
Q561 MODE SWITCH (B-3)
Q561 DTC144EE
D561 BAN222 (B-4)
D562 BAN222 (B-14)
V MUTE A12
VAPB 5V C20
VA PB MODE A10
JOG C IN C19
VIDEO GND F4
CHROMA 5V C18
ACK C14
JOG A9
SYNC DET A19
JOG FSC C16
PALJOG HD B10
PAL SEC C17
VTR SYNC C2
BOP C12
TO VS-83 BOARD (3/4)
(See Page 119)
(See Page 118)
F4 SS GND
F4 AU GND
F4 REG GND
F5 VID 5V
A49 CAM DD ON
A50 VTR DD ON
F9 R/P 5V
F10 AV 5V
A47 CAP ERR
F11 CAP VS
A48 DRUM ERR
F12 DRUM VS
F13 VTR UNREG
F14 UNREG GND
(See Page 125)
(See Page 120)
(See Page 118)
(See Page 126)
(See Page 115)
(See Page 125)
(See Page 126)
(See Page 125)
JL363
JL365
JL366
JL367
JL368
JL369
JL370
(A-2),(A-2),(A-2)
Q562,563,564
C OUT SELECT
Q565 AMP (B-3)
Q562 2SC4178
Q563 2SC4178
Q564 DTA144EE
Q565 2SC4617
Q566 DTC144EE
FL306 BPF
FSC
33
34
35
36
no mark : REC/PB mode
( ) : REC mode
< > : PB mode


E5 SR VDB
E6 SR VDW
TO VS-83 BOARD (2/4) (See Page 119)
C523 0.01 B
R520 1k
R521 39k
Q498 2SA1774
C528 0.47 F:2125
L494 100µH :5%
C529 12p CH
CN302 6P L 1.5mm SMT
JL526
JL527
JL372
JL373
1 EVF UNREG
2 UNREG GND
3 EVF 5V
4 EVF GND
5 EVF OUT
6 TALLY
TO VF-42 BOARD CN501 (See Page 155)
A13 TALLY
TO VS-83 BOARD (4/4) (See Page 128)
C525 0.01 F
C1 EVF OUT
C3 VIDEO 5V
E4 SR Y IN
TO VS-83 BOARD (2/4) (See Page 118)
E8 AFC H
D1 C OUT
E3 EXT C OUT
TO VS-83 BOARD (2/4) (See Page 118)
F4 VIDEO GND
TO VS-83 BOARD (2/4) (See Page 118, 128)
A12 V MUTE
TO VS-83 BOARD (2/4) (See Page 119)
A11 CAM/LINE
TO VS-83 BOARD(2/4) (See Page 119)
Q561 MODE SWITCH (B-3)
R568 100k
R571 100k
R580 4700
RV562 10k
R581 4700
C574 1 F:3216
R583 100k
C575 1000p F
R585 100k
C576 4.7 6.3V :TA A
C577 0.01 F
R586 2200
Q567 DTA144EE
Q567 JOG SWITCH (B-4)
JL562
C570 0.01 F
JL599
24 BELL FILTER
23 φ ADJ
22 BELL IN
21 MODE
20 SECAM IN
19 BL GAIN ADJ
18 fsc IN
17 SQ IO
16 BL AFC LPF
15 C OUT
14 IREF
13 VREG
MODE PB XPB
REC
1 YCC
2 PB C IN
3 SECAM ACK
4 1/2 FHMP
5 75NC
6 BLBP
7 SECAM SERIES
8 SECAM LPF
9 AFC LPF
10 HD
11 C SYNC
12 GND
R578 3300
R574 10k
C566 110p CH:2125
C567 1000p B
R575 8200
C571 1000p B
C569 2.2 6.3V A
R577 2200
C573 390p
Q566 DTC144EE
Q566 ON/OFF SWITCH (C-4)
C563 4.7 F:3216
C565 0.01 F
R569 1k
R572 33k
Q565 2SC4617
C564 0.01 F
C568 0.01 F
R570 470
R573 22k
R576 1k
C572 2p
R579 1k
FL306 BPF
(A-2),(A-2),(A-2) Q562,563,564 C OUT SELECT
Q565 AMP (B-3)
33
34
35
36

no mark : REC/PB mode
( ) : REC mode
< > : PB mode

VS-83 BOARD (3/4)

VS-83 BOARD (3/4)



- SIGNAL PATH

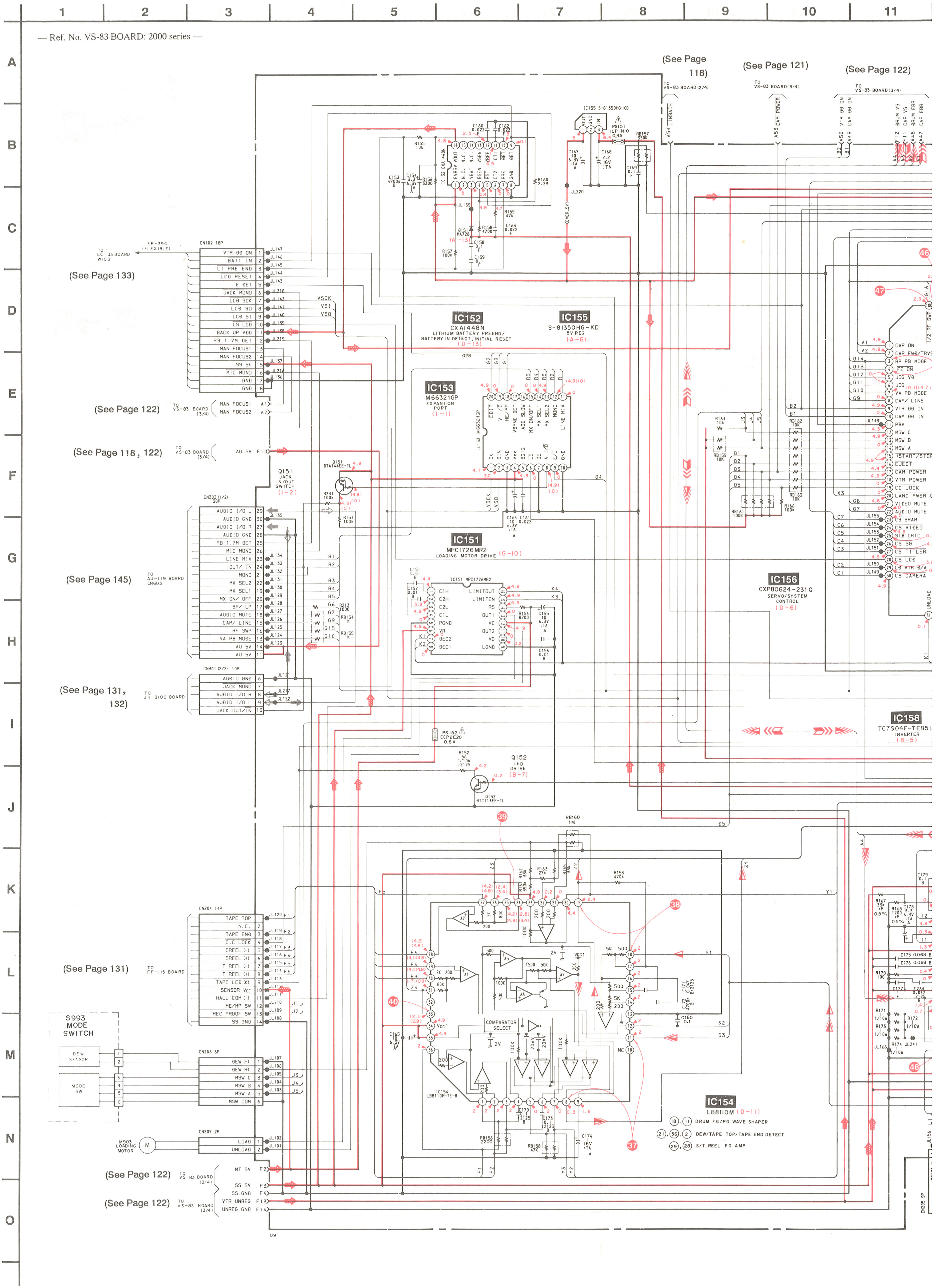
	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC	➡	➡➡		
PB	⇨	⇨⇨		

	REC	REC/PB	PB
Drum speed servo			
Drum phase servo			
Drum servo (speed and phase)		▷	
Capstan speed servo			
Capstan phase servo			
Capstan servo (speed and phase)		▷▷	
Ref. signal			

VS-83 (SERVO/SYSTEM CONTROL) SCHEMATIC DIAGRAM

- Refer to page 109 for Printed Wiring Board.

— Ref. No. VS-83 BOARD: 2000 series —


1
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10
11
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
(See Page 118)
TO VS-83 BOARD (2/4)
(See Page 121)
TO VS-83 BOARD (3/4)
(See Page 122)
TO VS-83 BOARD (3/4)
(See Page 133)
TO LC-33 BOARD W103
FP-394 (FLEXIBLE)
CN102 18P
VTR DD ON
BATT IN
LI PRE END
LCD RESET
E DET
JACK MONO
LCD SCK
LCD SO
LCD SI
CS LCD
BACK UP VDD
PB 1.7M DET
MAN FOCUS1
MAN FOCUS2
SS 5V
MIC MONO
GND
(See Page 122)
TO VS-83 BOARD (3/4)
(See Page 118, 122)
AU 5V
Q151 JACK IN/OUT SWITCH (I-2)
CN303 (1/2) 30P
AUDIO I/O L
AUDIO GND
AUDIO I/O R
LINE MIX
OUT/IN
MONO
MX SEL2
MX SEL1
MX ON/OFF
SP/LP
AUDIO MUTE
CAM/LINE
RF SWP
VA PB MODE
(See Page 145)
TO AU-119 BOARD CN603
CN301 (2/2) 10P
JACK OUT/IN
(See Page 131, 132)
TO JK-3100 BOARD
IC152 CXA1448N LITHIUM BATTERY PREEND/BATTERY IN DETECT, INITIAL RESET (D-13)
IC155 S-81350HG-KD 5V REG (A-6)
IC153 M66321GP EXPANTION PORT (I-1)
IC151 MPC1726MR2 LOADING MOTOR DRIVE (G-10)
IC156 CXP80624-231Q SERVO/SYSTEM CONTROL (D-6)
IC158 TC7S04F-TE85L INVERTER (B-5)
IC154 LB8110M (D-11)
PS151 ICP-N10 0.4A
PS152 CCP2E20 0.8A
Q152 LED DRIVE (B-7)
CN204 14P
TAPE TOP
N.C.
TAPE END
C.C LOCK
SREEL (-)
SREEL (+)
T REEL (-)
T REEL (+)
TAPE LED (K)
SENSOR Vcc
HALL COM (-)
ME/MP SW
REC PROOF SW
SS GND
(See Page 131)
TO FP-115 BOARD
S993 MODE SWITCH
DEW SENSOR
MODE SW
CN206 6P
DEW (-)
DEW (+)
MSW C
MSW B
MSW A
MSW COM
CN207 2P
LOAD
UNLOAD
M903 LOADING MOTOR
MT 5V
SS 5V
SS GND
VTR UNREG
UNREG GND
COMPARATOR SELECT
(18), (11) DRUM FG/PG WAVE SHAPER
(21), (36), (2) DEW/TAPE TOP/TAPE END DETECT
(29), (28) S/T REEL FG AMP
CAP ON
CAP FWD/RVS
RP PB MODE
FE ON
JOG VD
JOG
VA PB MODE
CAM/LINE
VTR DD ON
CAM DD ON
PBV
MSW C
MSW B
MSW A
START/STOP
EJECT
CAM POWER
VTR POWER
CC LOCK
LANC PWER
VIDEO MUTE
AUDIO MUTE
CS SRAM
CS VIDEO
STB CRTC
CS SG
CS TITLER
CS LCD
LB VTR D/A
CS CAMERA
37
38
39
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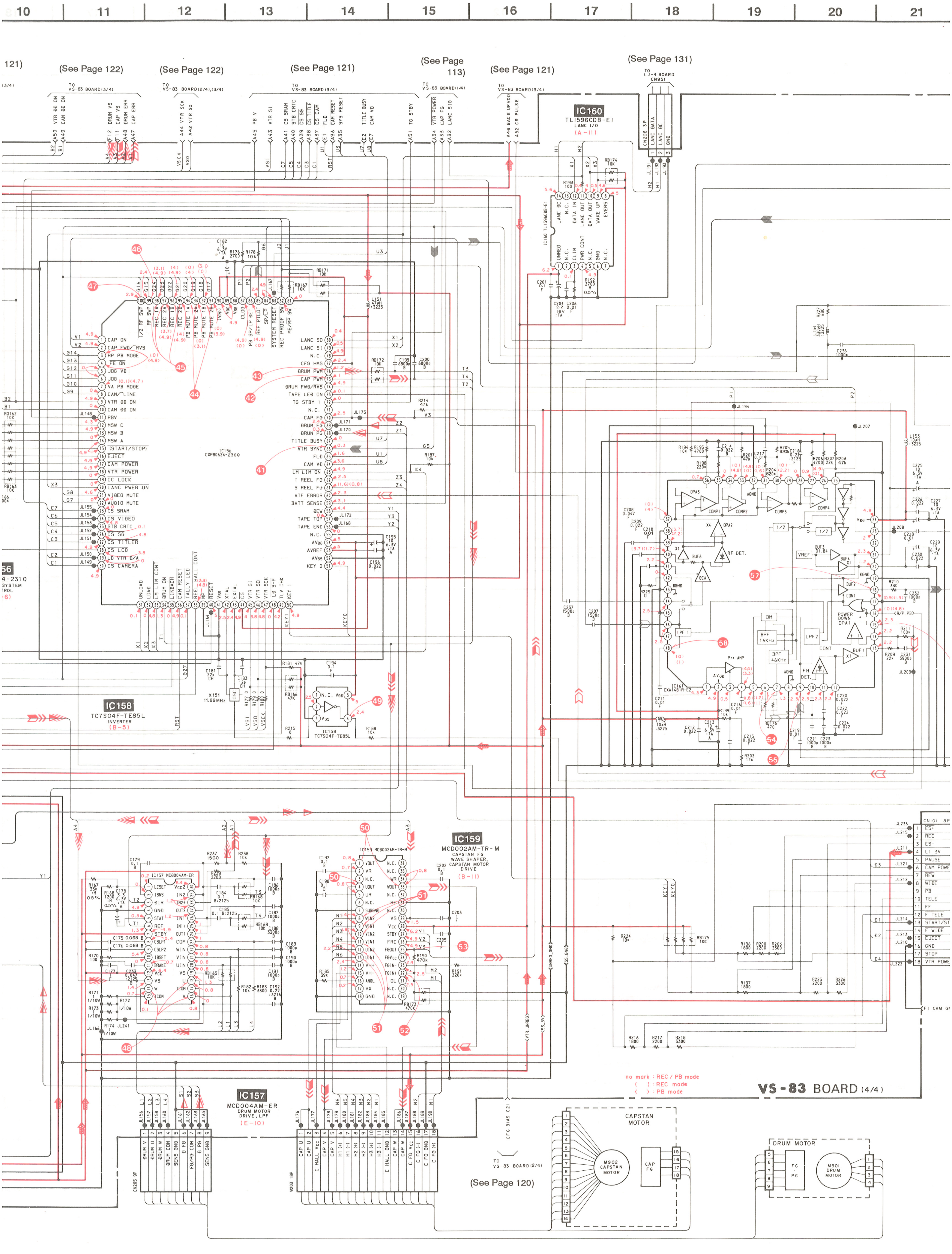
46
47
48

VIDEO VIDEO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16
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18
19
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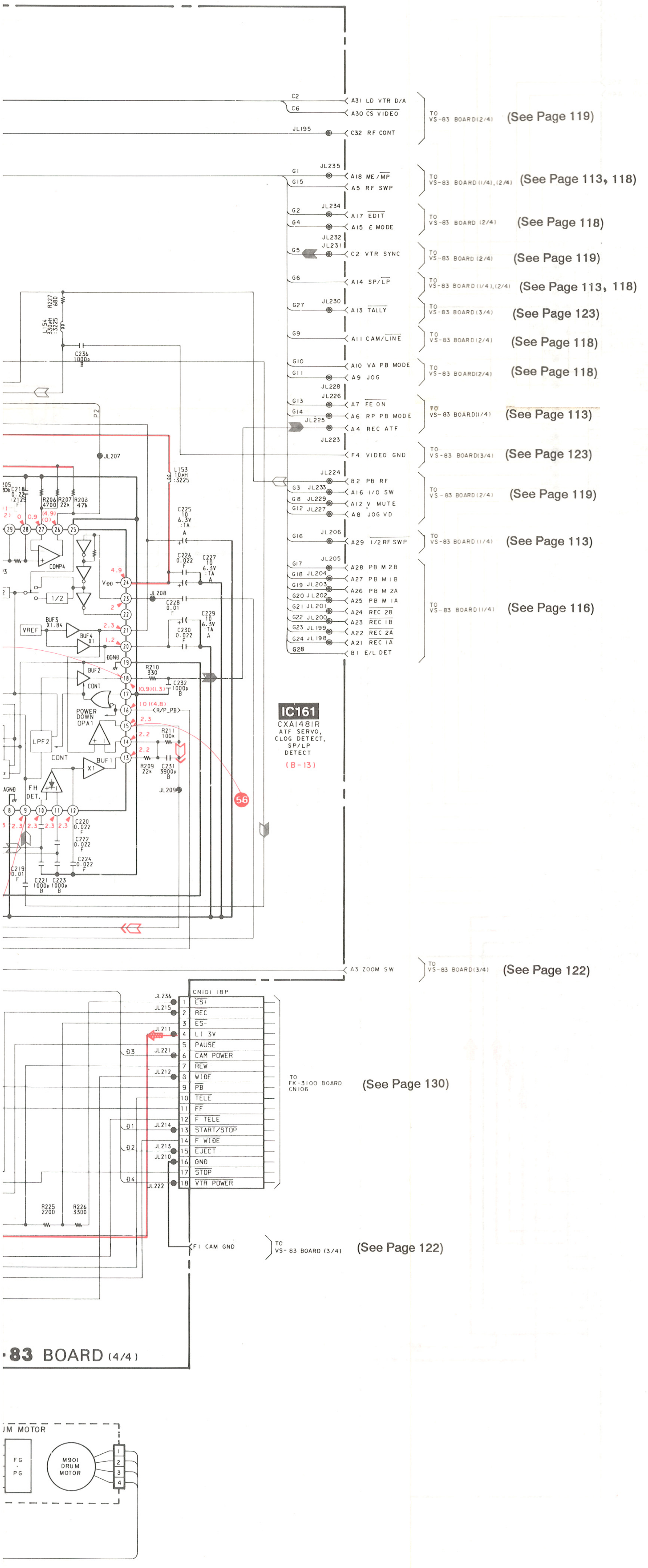
21
(See Page 122)
(See Page 122)
(See Page 121)
(See Page 113)
(See Page 121)
(See Page 131)
TO VS-83 BOARD (3/4)
TO VS-83 BOARD (2/4),(3/4)
TO VS-83 BOARD (1/4)
TO LJ-4 BOARD CN951
IC160
TL1596CDB-E1
LANC I/O
(A-11)
IC156 CXP80624-236Q
IC158
TC7S04F-TE85L
INVERTER
(B-5)
X151 11.89MHz
IC159
MCD002AM-TR-M
CAPSTAN FG
WAVE SHAPER,
CAPSTAN MOTOR
DRIVE
(B-11)
IC157
MCD004AM-ER
DRUM MOTOR
DRIVE, LPF
(E-10)
IC161 CXA1481R-E2
CAPSTAN MOTOR
M902 CAPSTAN MOTOR
CAP FG
DRUM MOTOR
M901 DRUM MOTOR
FG PG
TO VS-83 BOARD (2/4)
(See Page 120)
CN205 9P
W203 18P
CN101 18P

no mark : REC / PB mode
( ) : REC mode
〈 〉 : PB mode

VS-83 BOARD (4/4)

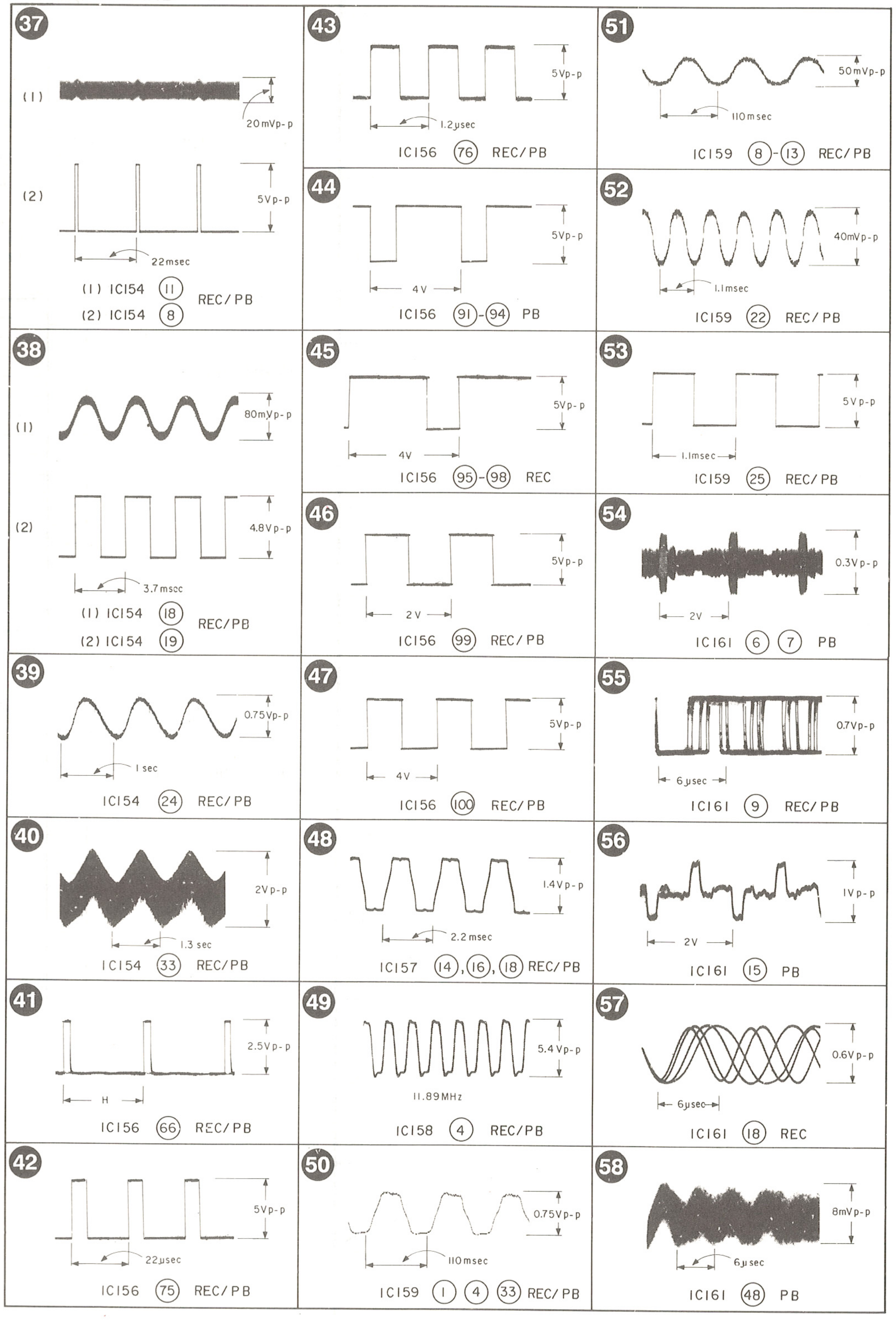

C2
C6
A31 LD VTR D/A
A30 CS VIDEO
JL195
C32 RF CONT
TO VS-83 BOARD(2/4)
(See Page 119)
G1
G15
JL235
A18 ME/MP
A5 RF SWP
TO VS-83 BOARD(1/4),(2/4)
(See Page 113, 118)
G2
G4
JL234
A17 EDIT
A15 E MODE
TO VS-83 BOARD (2/4)
(See Page 118)
JL232
JL231
G5
C2 VTR SYNC
TO VS-83 BOARD (2/4)
(See Page 119)
G6
A14 SP/LP
TO VS-83 BOARD(1/4),(2/4)
(See Page 113, 118)
G27
JL230
A13 TALLY
TO VS-83 BOARD(3/4)
(See Page 123)
G9
A11 CAM/LINE
TO VS-83 BOARD(2/4)
(See Page 118)
G10
G11
A10 VA PB MODE
A9 JOG
TO VS-83 BOARD(2/4)
(See Page 118)
JL228
JL226
G13
G14
JL225
A7 FE ON
A6 RP PB MODE
A4 REC ATF
TO VS-83 BOARD(1/4)
(See Page 113)
JL223
F4 VIDEO GND
TO VS-83 BOARD(3/4)
(See Page 123)
JL224
B2 PB RF
G3 JL233
G8 JL229
G12 JL227
A16 I/O SW
A12 V MUTE
A8 JOG VD
TO VS-83 BOARD(2/4)
(See Page 119)
G16
JL206
A29 1/2 RF SWP
TO VS-83 BOARD(1/4)
(See Page 113)
G17
JL205
G18 JL204
G19 JL203
G20 JL202
G21 JL201
G22 JL200
G23 JL199
G24 JL198
G28
A28 PB M 2B
A27 PB M 1B
A26 PB M 2A
A25 PB M 1A
A24 REC 2B
A23 REC 1B
A22 REC 2A
A21 REC 1A
B1 E/L DET
TO VS-83 BOARD(1/4)
(See Page 116)
IC161
CXA1481R
ATF SERVO, CLOG DETECT, SP/LP DETECT
(B-13)
R227 680
L151 330μH
C236 1000p
P2
JL207
L153 10μH
C225 10 6.3V
C226 0.022
C227 10 6.3V
C228 0.01
C229 10 6.3V
C230 0.022
R206 4700
R207 22k
R208 47k
COMP4
VREF
1/2
BUF3 X1.84
BUF4 X1
BUF2
CONT
POWER DOWN OPA1
LPF2
BUF1 X1
FH DET.
VDD
DGND
R210 330
C232 1000p
R211 100k
R209 22k
C231 3900p
JL209
JL208
C220 0.022
C222 0.022
C224 0.022
C219 0.01
C221 1000p
C223 1000p
4.9
2.3
1.2
2
10.9(11.3)
10(4.8)
R/P_PB
2.3
2.2
2.2
56
A3 ZOOM SW
TO VS-83 BOARD(3/4)
(See Page 122)
CN101 18P
1 ES+
2 REC
3 ES-
4 LI 3V
5 PAUSE
6 CAM POWER
7 REW
8 WIDE
9 PB
10 TELE
11 FF
12 F TELE
13 START/STOP
14 F WIDE
15 EJECT
16 GND
17 STOP
18 VTR POWER
JL236
JL215
JL211
JL221
JL212
JL214
JL213
JL210
JL222
D1
D2
D3
D4
R225 2200
R226 3300
TO FK-3100 BOARD CN106
(See Page 130)
F1 CAM GND
TO VS-83 BOARD (3/4)
(See Page 122)
-83 BOARD (4/4)
M MOTOR
FG
PG
M901 DRUM MOTOR
1
2
3
4

- SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC				➡
PB				⇨

	REC	REC/PB	PB
Drum speed servo		▷	
Drum phase servo		≫	
Drum servo (speed and phase)		⋙	
Capstan speed servo			
Capstan phase servo	➡≫	⇨≫	▷≫
Capstan servo (speed and phase)		⇨≫	
Ref. signal	➡	⇨	▷

VS-83 BOARD (4/4)

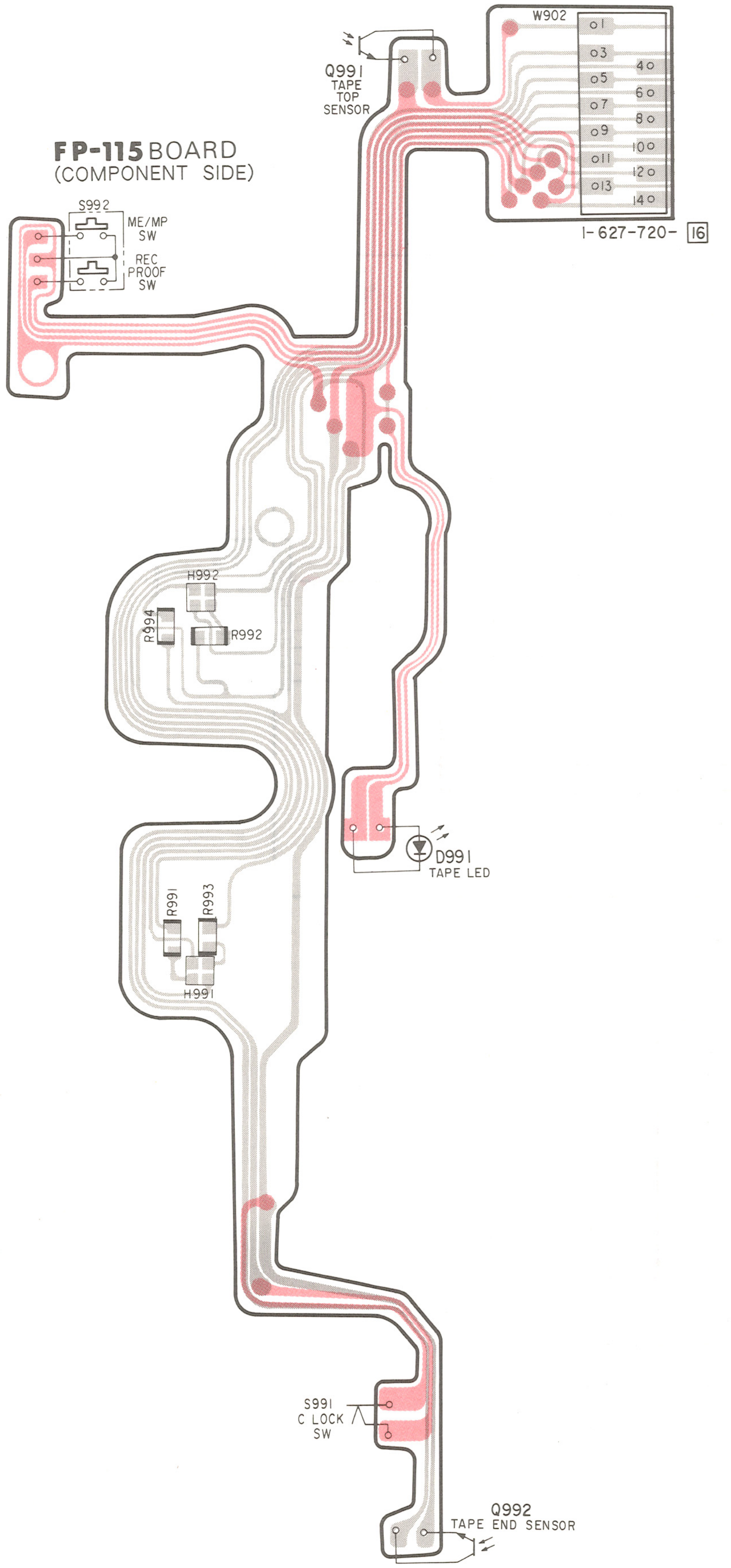


LJ-4 (REMOTE CONTROL JACK), FP-115 (TAPE SENSOR, TAPE SWITCH), FK-3100/3101 (VTR FUNCTION SWITCH), JK-3100 (VIDEO/AUDIO JACK) PRINTED WIRING BOARDS

— Ref. No. LJ-4, FR-115 BOARDS: 7000 series —

- FK-3100/3101, JK-3100 boards are replaced as blocks, so that there PRINTED WIRING BOARDS are omitted.

FP-115 BOARD (COMPONENT SIDE)


W902
1
3
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9
10
11
12
13
14
1-627-720- 16
Q991
TAPE TOP SENSOR
S992
ME/MP SW
REC PROOF SW
H992
R994
R992
R991
R993
H991
D991
TAPE LED
S991
C LOCK SW
Q992
TAPE END SENSOR

＊ A-7061-238-A FP-115 BOARD, COMPLETE
＊＊＊＊＊＊＊＊＊＊＊＊＊＊＊＊＊＊＊＊＊＊＊
(Ref. No 7, 000 Series)

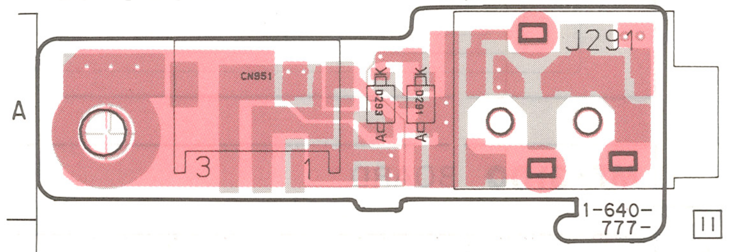
< DIODE >

D991	8-719-951-03	DIODE	GL-453

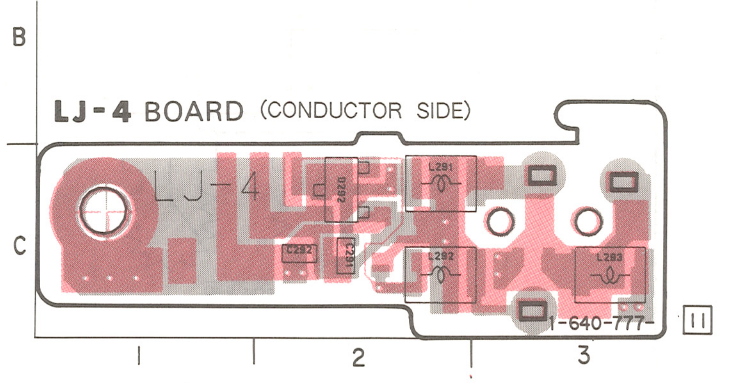
< TRANSISTOR >

Q991	8-729-907-25	TRANSISTOR	PT4850F
Q992	8-729-907-25	TRANSISTOR	PT4850F

LJ-4 BOARD (COMPONENT SIDE)


A
CN851
D293
D291
J291
3
1
1-640-777- 11

LJ-4 BOARD (CONDUCTOR SIDE)


B
C
LJ-4
D292
L291
L292
L293
1-640-777- 11
1
2
3

＊ A-7071-464-A LJ-4 BOARD, COMPLETE
＊＊＊＊＊＊＊＊＊＊＊＊＊＊＊＊＊＊＊＊＊
(Ref. No 7, 000 Series)

< DIODE >

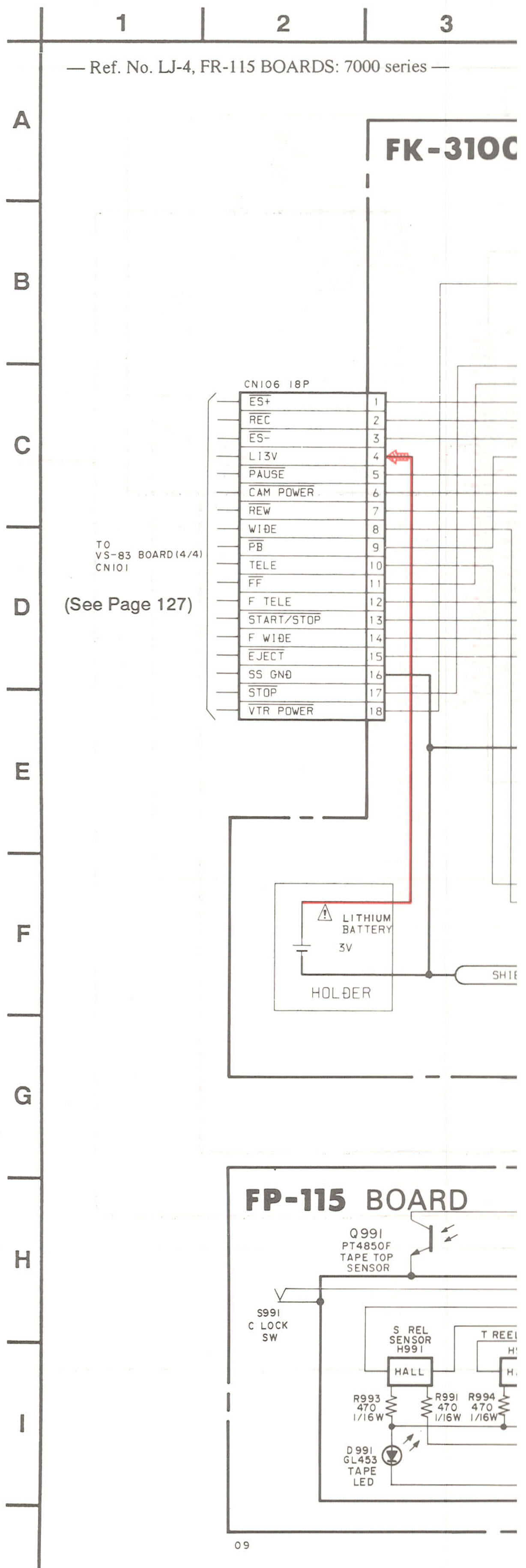
D291	8-719-420-14	DIODE	MA8082
D292	8-719-106-71	DIODE	RD12M
D293	8-719-404-46	DIODE	MA110

- **For printed wiring boards.**
- LJ-4 board is the printed wiring board which has four layers structure but inner two layers' patterns are omitted.
- ● : Through hole is omitted.

Caution:

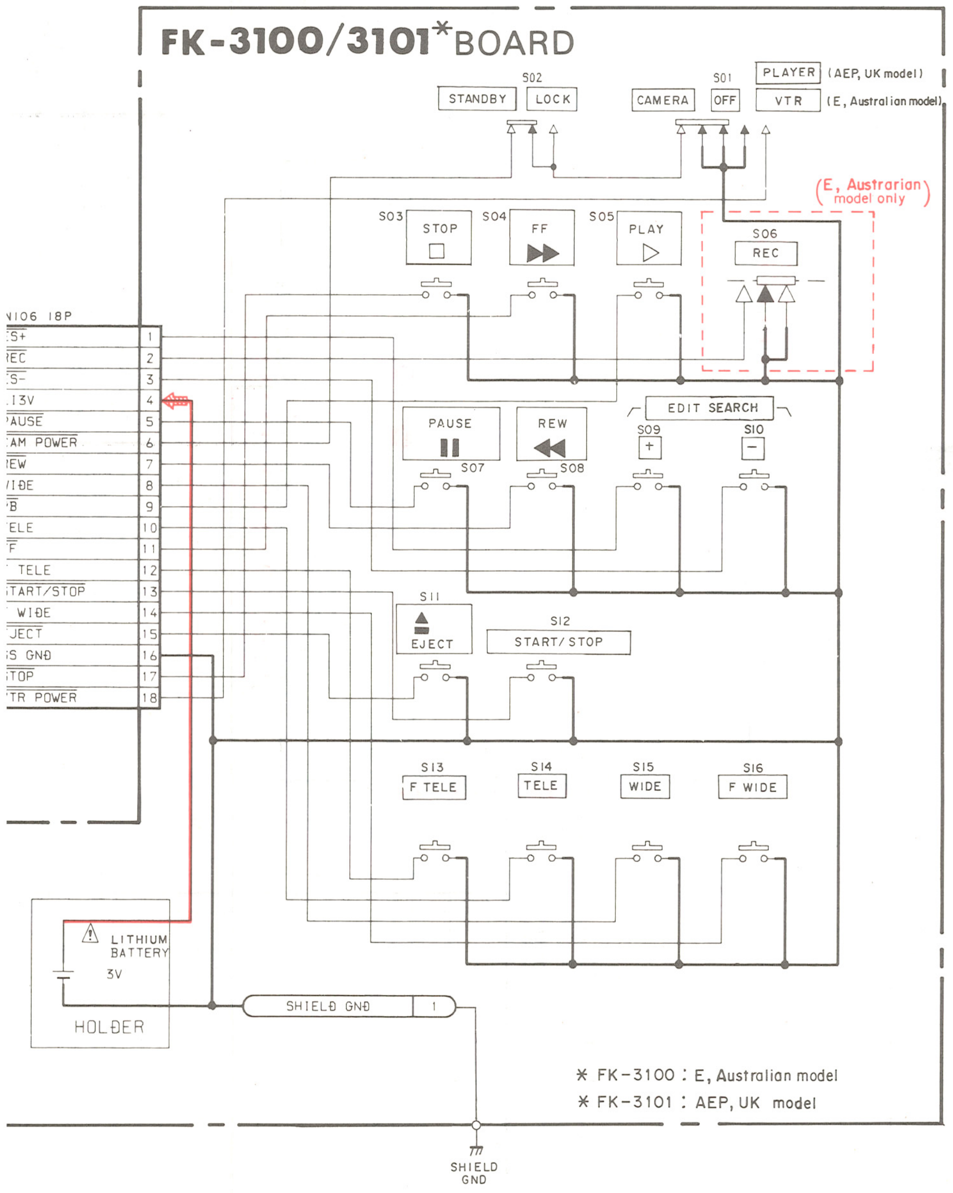
Pattern face side: (Conductor Side)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Component side)	Parts on the parts face side seen from the pattern face are indicated.

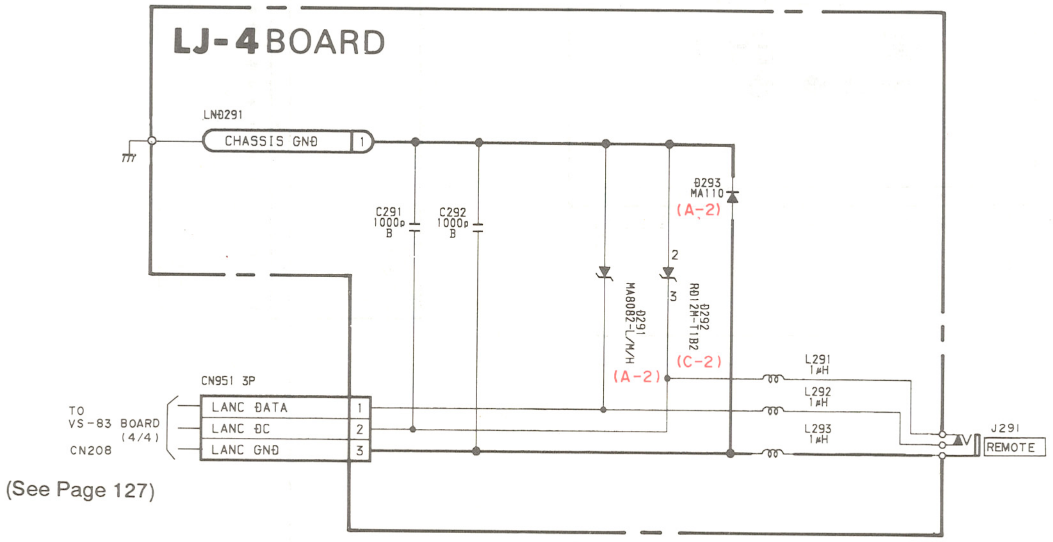
— Ref. No. LJ-4, FR-115 BOARDS: 7000 series —


1
2
3
A
B
C
D
E
F
G
H
I
J
FK-310
CN106 18P
ES+
REC
ES-
LI3V
PAUSE
CAM POWER
REW
WIDE
PB
TELE
FF
F TELE
START/STOP
F WIDE
EJECT
SS GND
STOP
VTR POWER
TO VS-83 BOARD (4/4) CN101
(See Page 127)
LITHIUM BATTERY
3V
HOLDER
FP-115 BOARD
Q991
PT4850F
TAPE TOP SENSOR
S991
C LOCK SW
S REL SENSOR
H991
HALL
T REEL
R993 470 1/16W
R991 470 1/16W
R994 470 1/16W
D991
GL453
TAPE LED
09

TROL JACK), FP-115 (TAPE SENSOR, TAPE SWITCH), FK-3100/3101 (VTR FUNCTION SWITCH), JK-3100 (VIDEO/AUDIO JACK) SCHEMATIC DIAGRAMS

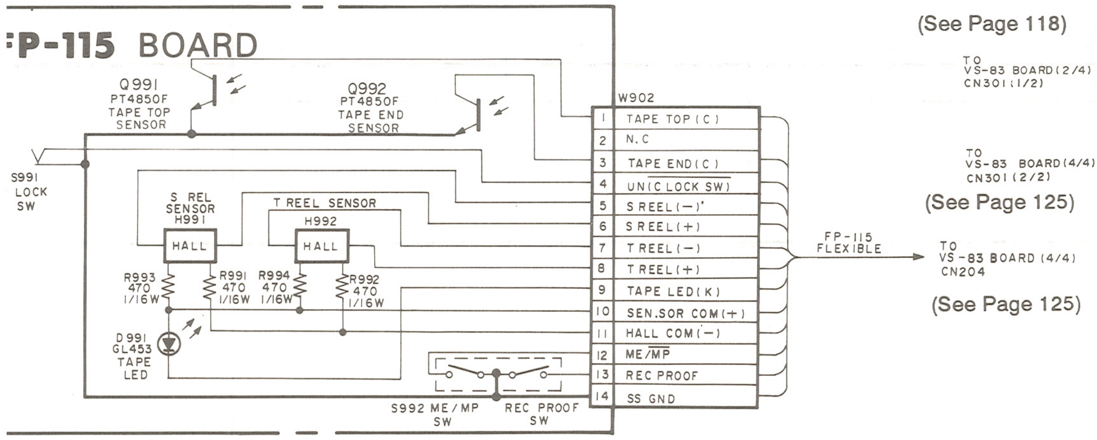
BOARDS: 7000 series —

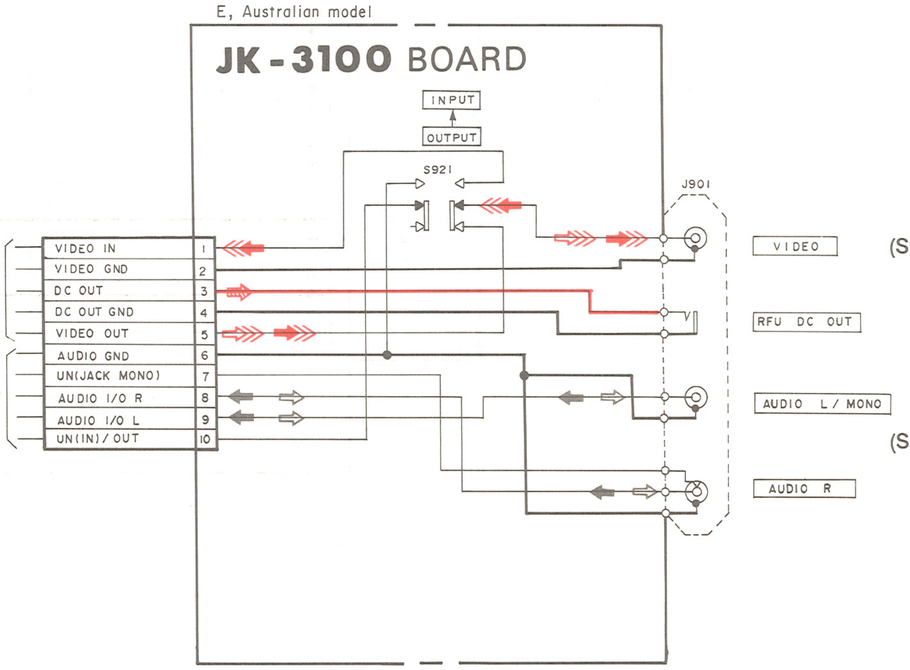

FK-3100/3101*BOARD
S02
STANDBY
LOCK
S01
CAMERA
OFF
PLAYER (AEP, UK model)
VTR (E, Australian model)
(E, Austrarian model only)
S03 STOP
S04 FF
S05 PLAY
S06 REC
PAUSE S07
REW S08
EDIT SEARCH
S09 +
S10 −
S11 EJECT
S12 START/STOP
S13 F TELE
S14 TELE
S15 WIDE
S16 F WIDE
N106 18P
S+
REC
S−
.13V
PAUSE
CAM POWER
REW
VIDE
B
ELE
F
TELE
START/STOP
WIDE
JECT
S GND
TOP
TR POWER
LITHIUM BATTERY 3V
HOLDER
SHIELD GND
SHIELD GND
※ FK-3100 : E, Australian model
※ FK-3101 : AEP, UK model

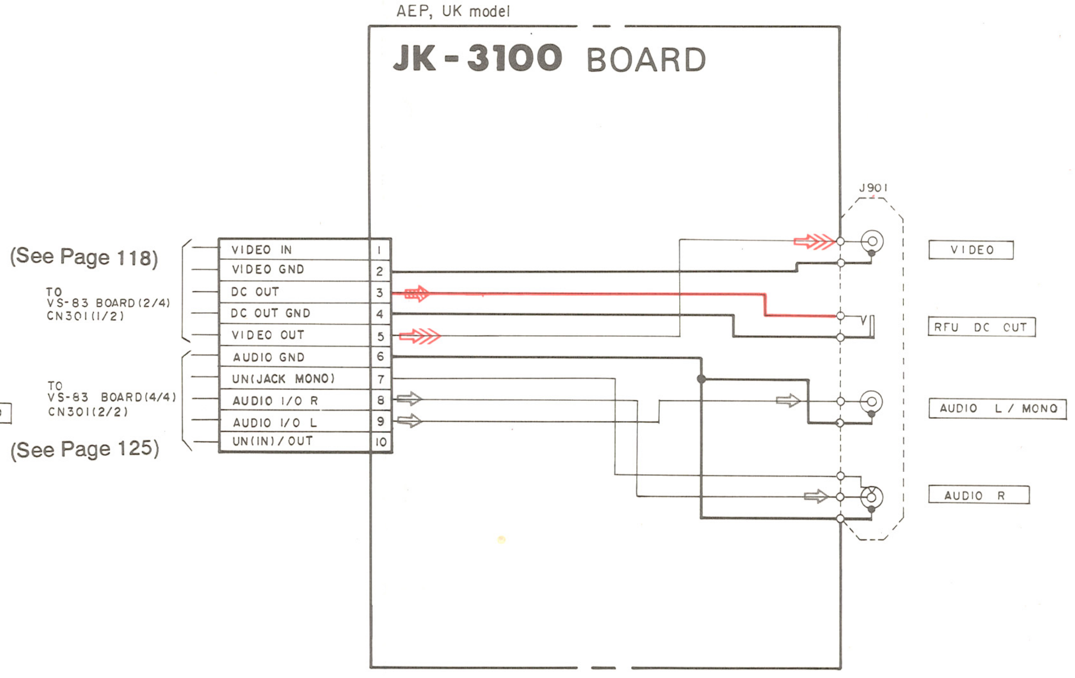

LJ-4 BOARD
LN0291
CHASSIS GND
C291 1000p B
C292 1000p B
D293 MA110 (A-2)
D291 MA8082-L/M/H (A-2)
D292 RD12M-T1B2 (C-2)
L291 1μH
L292 1μH
L293 1μH
J291 REMOTE
CN951 3P
LANC DATA
LANC DC
LANC GND
TO VS-83 BOARD (4/4) CN208
(See Page 127)

• SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC			➡	➡
PB			⇨	⇨


FP-115 BOARD
Q991 PT4850F TAPE TOP SENSOR
Q992 PT4850F TAPE END SENSOR
S991 LOCK SW
S REEL SENSOR H991
T REEL SENSOR H992
HALL
R993 470 1/16W
R991 470 1/16W
R994 470 1/16W
R992 470 1/16W
D991 GL453 TAPE LED
S992 ME/MP SW
REC PROOF SW
W902
TAPE TOP(C)
N.C
TAPE END(C)
UNI(LOCK SW)
S REEL(−)
S REEL(+)
T REEL(−)
T REEL(+)
TAPE LED(K)
SENSOR COM(+)
HALL COM(−)
ME/MP
REC PROOF
SS GND
FP-115 FLEXIBLE
TO VS-83 BOARD (4/4) CN204
(See Page 125)

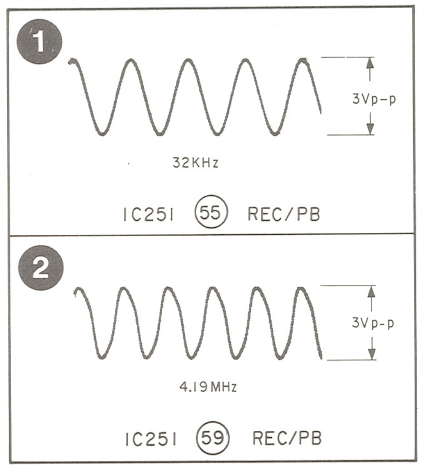

E, Australian model
JK-3100 BOARD
INPUT
OUTPUT
S921
J901
VIDEO
RFU DC OUT
AUDIO L/MONO
AUDIO R
(See Page 118)
TO VS-83 BOARD (2/4) CN301 (1/2)
VIDEO IN
VIDEO GND
DC OUT
DC OUT GND
VIDEO OUT
AUDIO GND
UNI(JACK MONO)
AUDIO I/O R
AUDIO I/O L
UNI(IN)/OUT
TO VS-83 BOARD (4/4) CN301 (2/2)
(See Page 125)

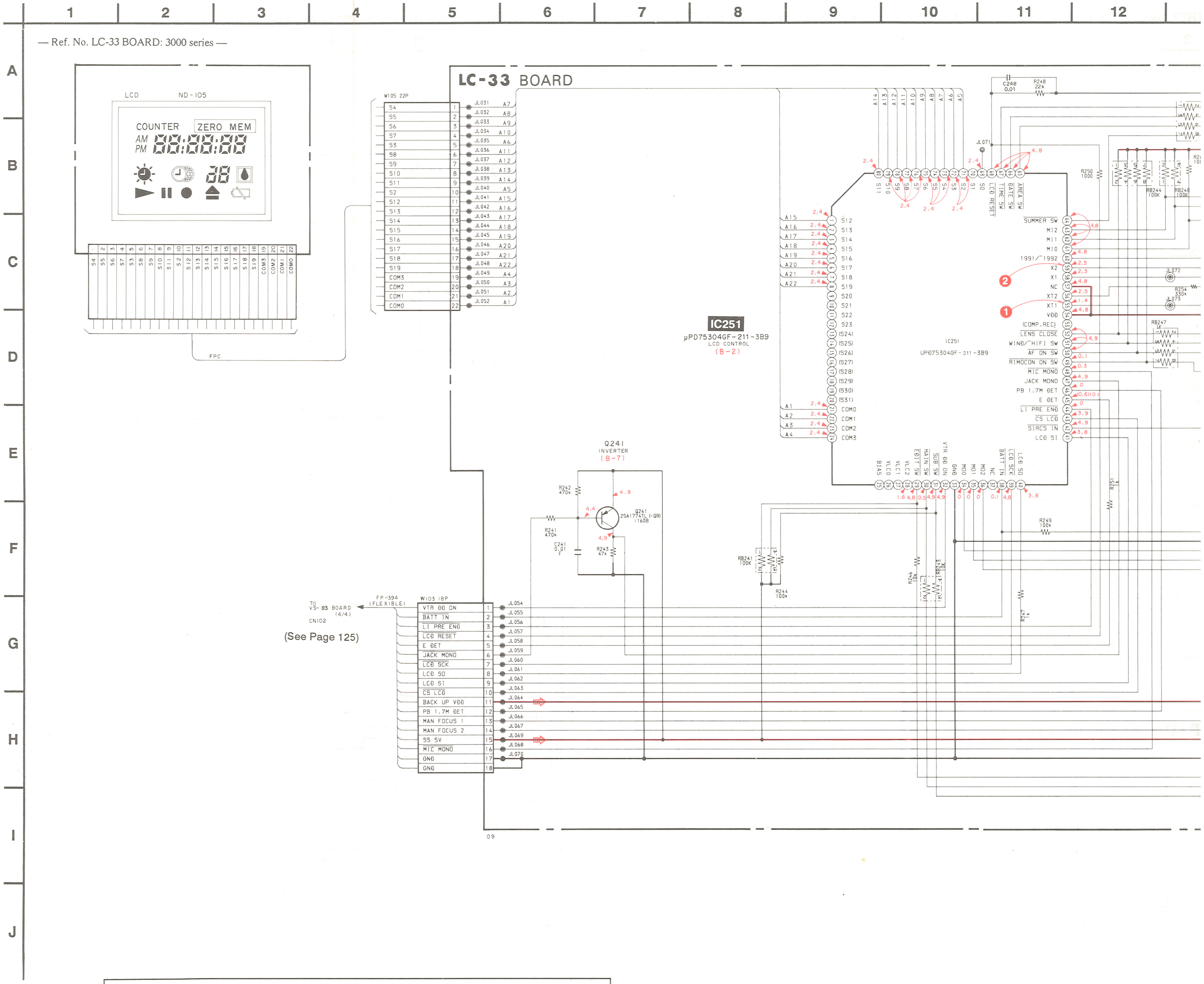

AEP, UK model
JK-3100 BOARD
J901
VIDEO
RFU DC OUT
AUDIO L/MONO
AUDIO R
(See Page 118)
TO VS-83 BOARD (2/4) CN301 (1/2)
VIDEO IN
VIDEO GND
DC OUT
DC OUT GND
VIDEO OUT
AUDIO GND
UNI(JACK MONO)
AUDIO I/O R
AUDIO I/O L
UNI(IN)/OUT
TO VS-83 BOARD (4/4) CN301 (2/2)
(See Page 125)

FUNCTION SWITCH FUNCTION SWITCH

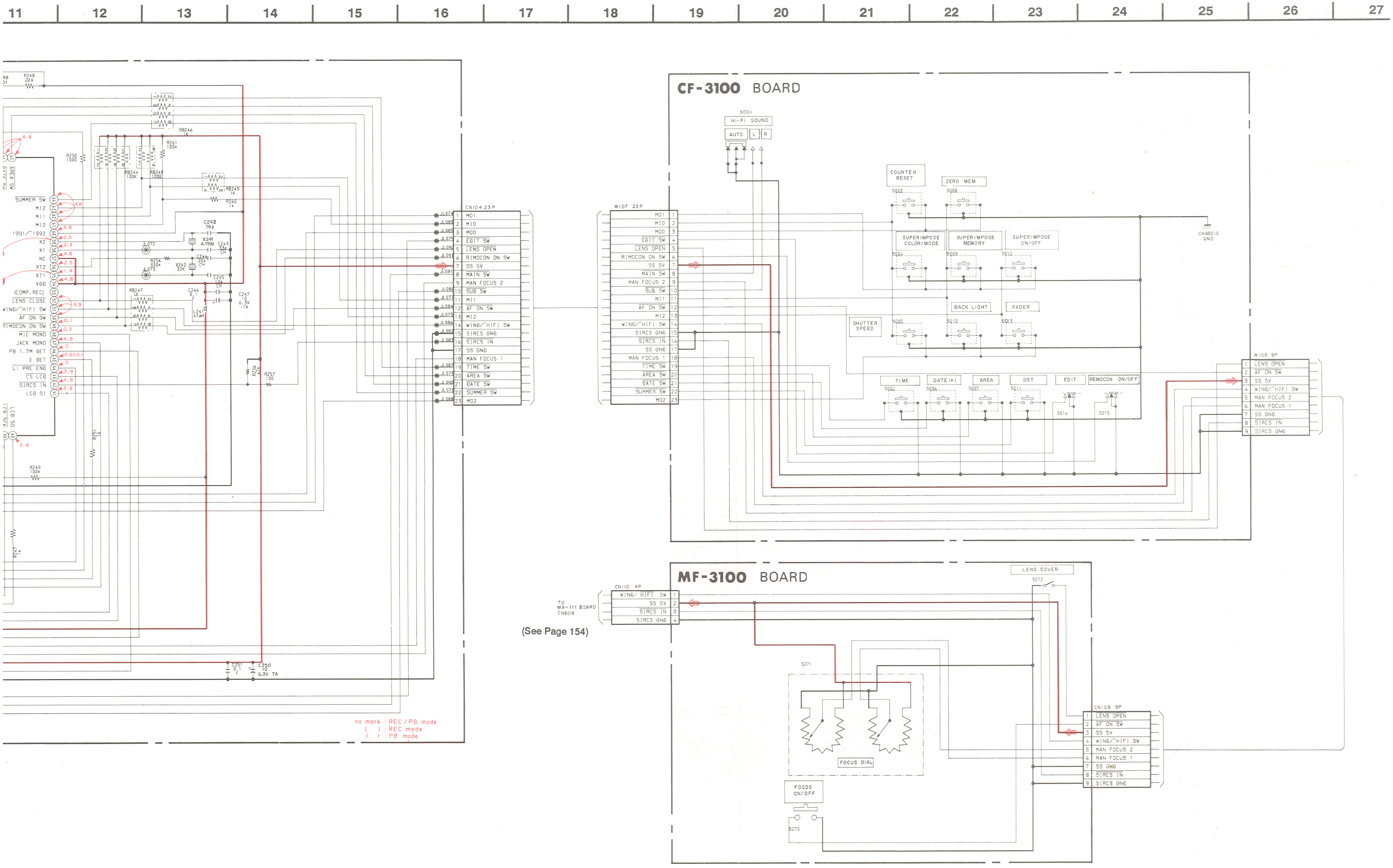
LC-33 (LCD CONTROLLER), CF-3100 (CAMERA FUNCTION SWITCH), MF-3100 (FOCUS SWITCH) SCHEMATIC DIAGRAMS

LC-33 BOARD




1
2
3
4
5
6
7
8
9
10
11
12
A
B
C
D
E
F
G
H
I
J
— Ref. No. LC-33 BOARD: 3000 series —
LCD
ND-105
COUNTER
ZERO MEM
AM
PM
FPC
W105 22P
LC-33 BOARD
IC251
μPD75304GF-211-3B9
LCD CONTROL
(B-2)
Q241
INVERTER
(B-7)
2SA1774TL (-QR)
TO VS-83 BOARD (4/4)
CN102
FP-394 (FLEXIBLE)
W103 18P
VTR DD ON
BATT IN
LI PRE END
LCD RESET
E DET
JACK MONO
LCD SCK
LCD SO
LCD SI
CS LCD
BACK UP VDD
PB 1.7M DET
MAN FOCUS 1
MAN FOCUS 2
SS 5V
MIC MONO
GND
GND
SUMMER SW
M12
M11
M10
1991/1992
X2
X1
NC
XT2
XT1
VDD
(COMP.REC)
LENS CLOSE
WIND/HIFI SW
AF ON SW
RIMOCON ON SW
MIC MONO
JACK MONO
PB 1.7M DET
E DET
LI PRE END
CS LCD
SIRCS IN
LCD SI
(See Page 125)

FUNCTION SWITCH FUNCTION SWITCH


11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
CF-3100 BOARD
MF-3100 BOARD
CN104 23P
MO1
MIO
MOO
EDIT SW
LENS OPEN
RIMOCON ON SW
SS 5V
MAIN SW
MAN FOCUS 2
SUB SW
MI1
AF ON SW
MI2
WIND/HIFI SW
SIRCS GND
SIRCS IN
SS GND
MAN FOCUS 1
TIME SW
AREA SW
DATE SW
SUMMER SW
MO2
W107 23P
W108 9P
CN109 9P
CN110 4P
TO MA-111 BOARD CN608
(See Page 154)
S001
Hi-Fi SOUND
AUTO
L
R
COUNTER RESET
ZERO MEM
SUPERIMPOSE COLOR/MODE
SUPERIMPOSE MEMORY
SUPERIMPOSE ON/OFF
BACK LIGHT
FADER
SHUTTER SPEED
TIME
DATE (+)
AREA
DST
EDIT
REMOCON ON/OFF
CHASSIS GND
LENS COVER
FOCUS DIAL
FOCUS ON/OFF
S270
S271
S272
SUMMER SW
1991/1992
COMP, REC
LENS CLOSE
WIND/HIFI SW
AF ON SW
RIMOCON ON SW
MIC MONO
JACK MONO
PB 1.7M DET
E DET
LI PRE END
CS LCD
SIRCS IN
LCD SI
X241 4.19M
X242 32K
C242 18p
C247 10 6.3V TA
C250 10 6.3V TA
L241 47μH
R248 22k
R249 100k
R257 100
RB244 100K
RB246 1K
RB247 1K
RB248 100K
RB249 1K
R261 100k
no mark : REC/PB mode
( ) : REC mode
< > : PB mode

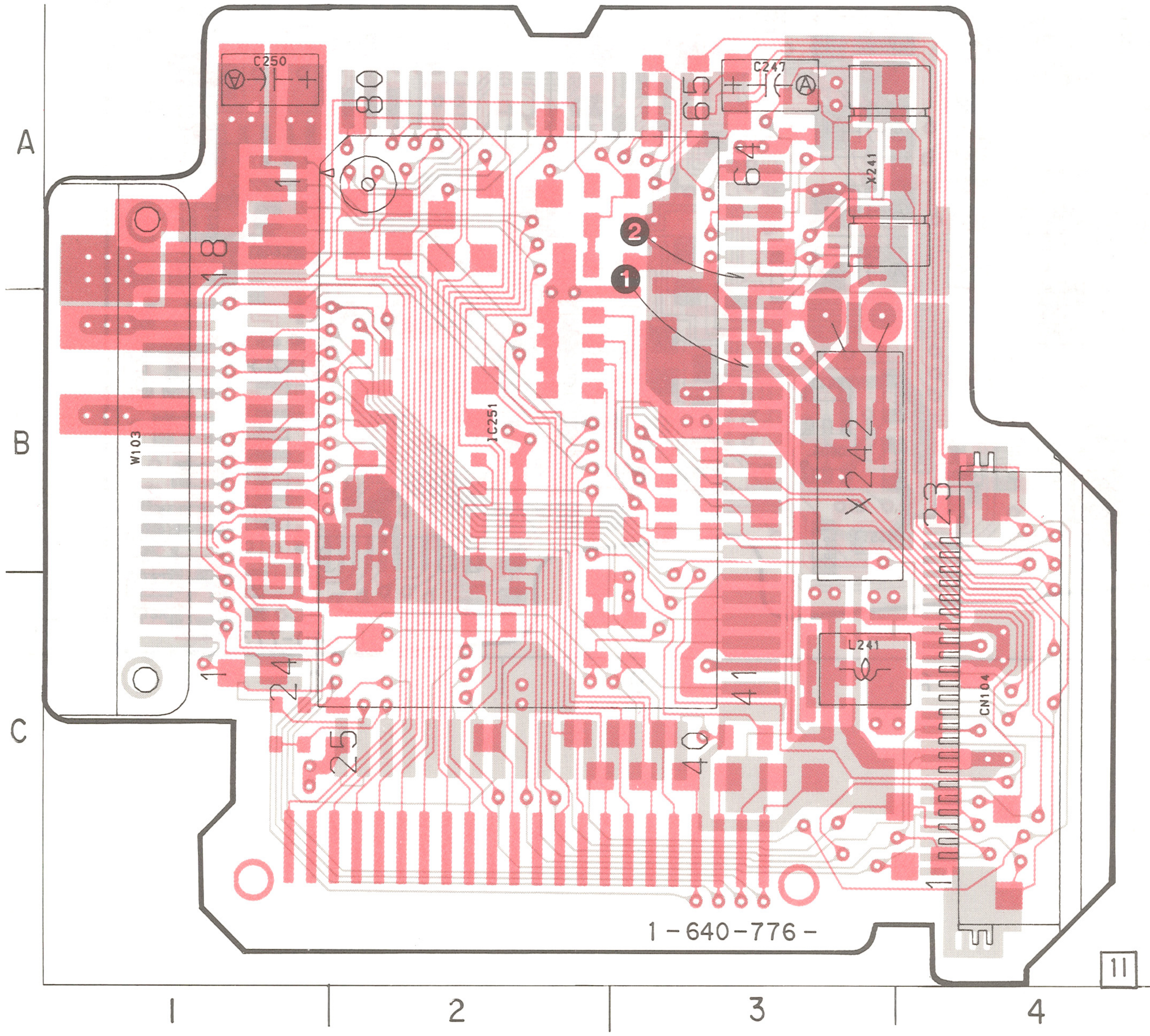
FUNCTION SWITCH FUNCTION SWITCH

LC-33 (LCD CONTROLLER), CF-3100 (CAMERA FUNCTION SWITCH), MF-3100 (FOCUS SWITCH) PRINTED WIRING BOARDS

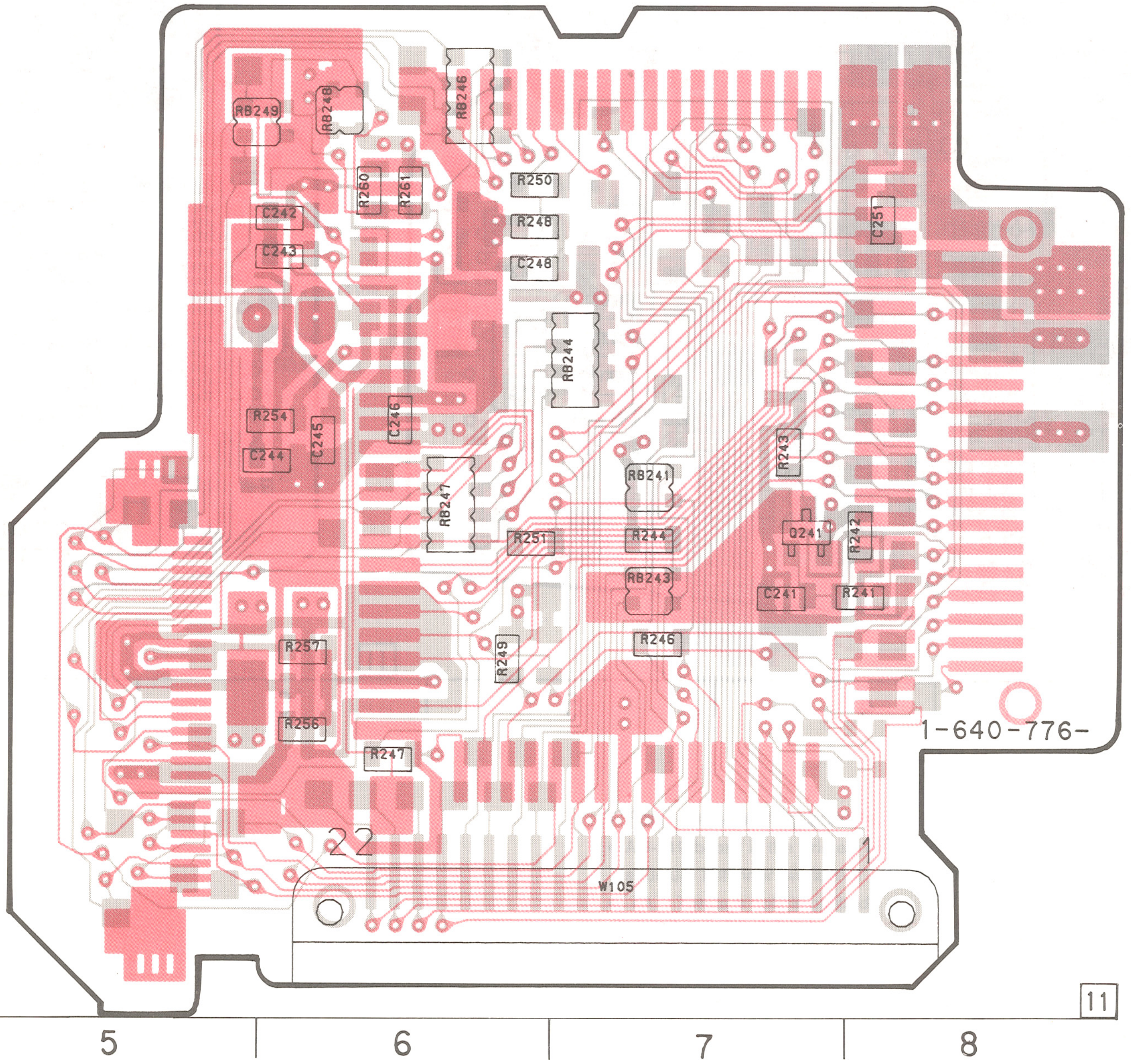
— Ref. No. LC-33 BOARD: 3000 series —

- CF-3100, MF-3100 boards are replaced as blocks, so that there PRINTED WIRING BOARDS are omitted.

LC-33 BOARD (COMPONENT SIDE)


A
B
C
1
2
3
4
C250
C247
X241
80
65
64
1
18
IC251
W103
X242
23
L241
CN104
41
40
24
25
1
❶
❷
1-640-776-
11

LC-33 BOARD (CONDUCTOR SIDE)


5
6
7
8
RB249
RB248
RB246
R250
R248
C248
R260
R261
C242
C243
RB244
C251
R254
C244
C245
C246
RB247
R251
RB241
R244
RB243
R246
R243
Q241
R242
C241
R241
R257
R256
R247
R249
22
1
W105
1-640-776-
11

- **For printed wiring boards.**
- LC-33 board is the printed wiring board which has four layers structure but inner two layers' patterns are omitted.
- ● : Through hole is omitted.

Caution:

Pattern face side: (Conductor Side)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Component side)	Parts on the parts face side seen from the pattern face are indicated.

* A-7062-881-A LC-33 BOARD, COMPLETE

****

(Ref.No 3,000 Series)

< IC >

IC251	8-759-045-35	IC uPD75304GF-211-3B9

< TRANSISTOR >

Q241	8-729-928-19	TRANSISTOR 2SA1774

AU-119 (AFM AUDIO) PRINTED WIRING BOARD

— Ref. No. AU-119 BOARD: 4000 series —

* A-7052-878-A AU-119 BOARD, COMPLETE
****
(Ref. No 4, 000 Series)

< DIODE >

D601	8-719-420-14	DIODE	MA8082-L/M/H-TX

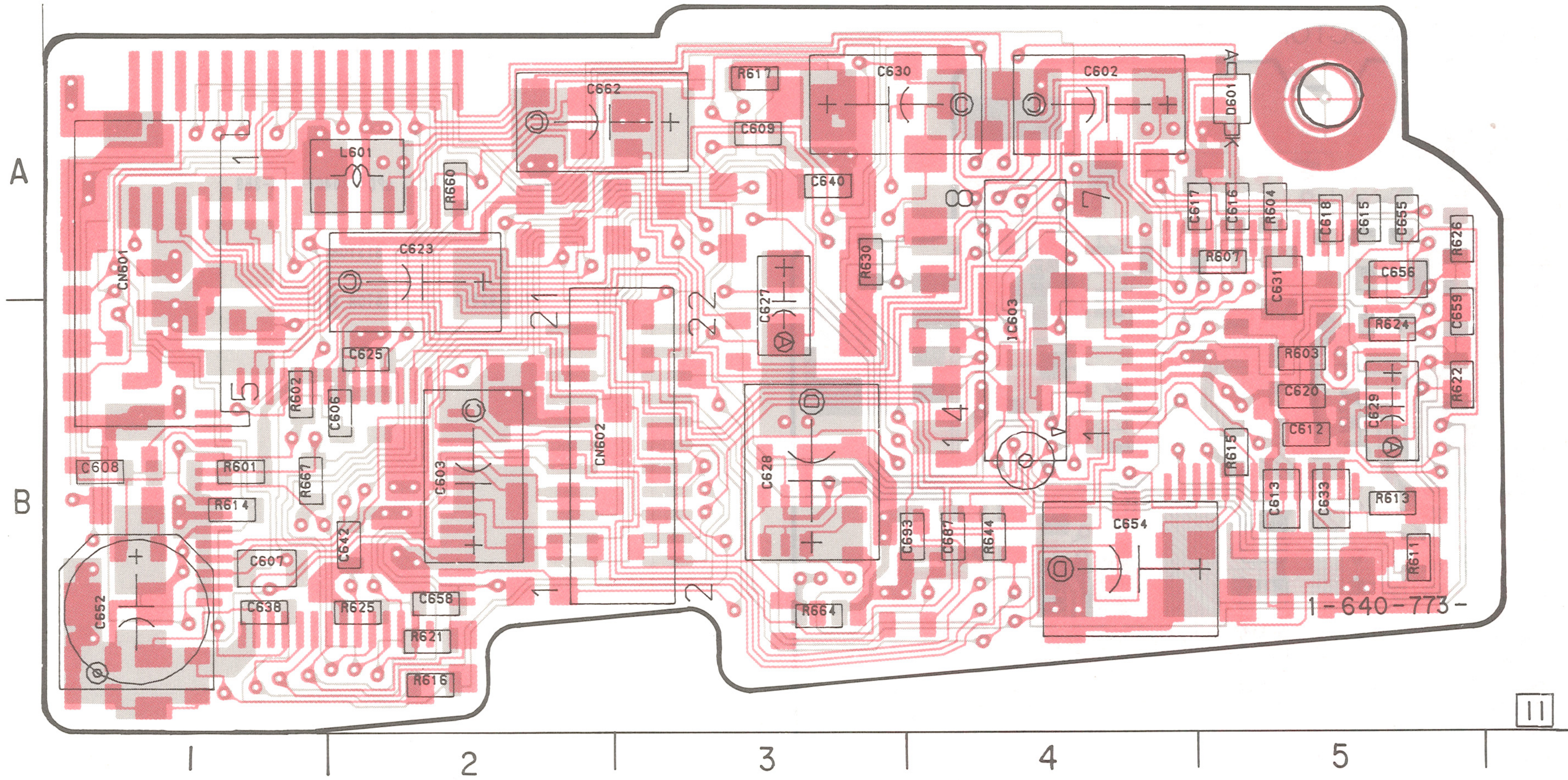
< IC >

IC601	8-759-823-19	IC	CXA1488RR
IC602	8-759-823-19	IC	CXA1488RR
IC603	8-759-509-05	IC	XRU4066BF

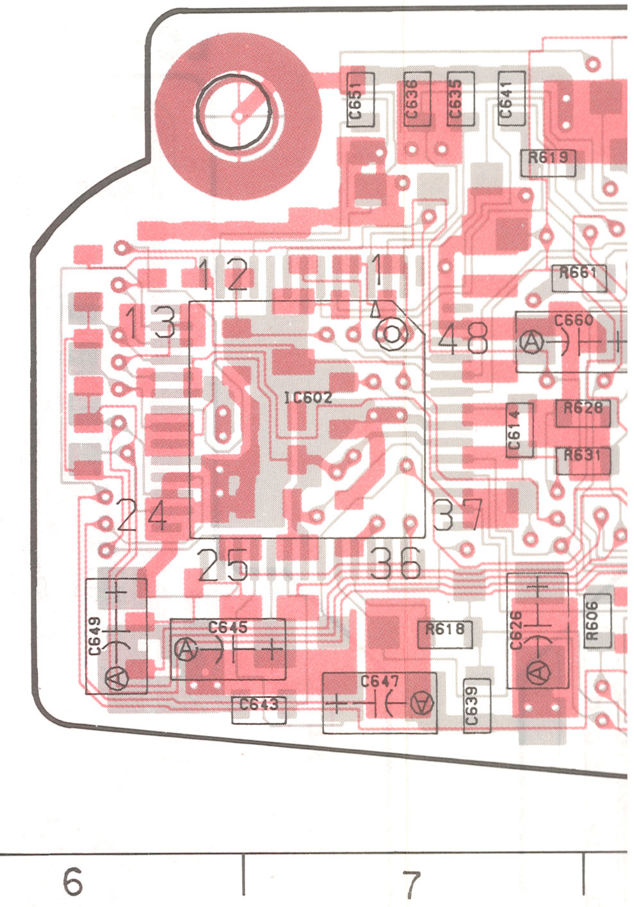
< TRANSISTOR >

Q603	8-729-429-18	TRANSISTOR	UN9213
Q606	8-729-927-62	TRANSISTOR	UMX1

AU-119 BOARD (COMPONENT SIDE)


A
B
L601
C662
R617
C609
C630
C602
D601
C640
R660
C623
CN601
C625
R630
C627
IC603
R607
C631
C617
C616
R604
C618
C615
C655
R626
C656
R624
C659
R603
C620
C612
R622
C629
R615
C613
C633
R613
R611
C654
R664
C693
C687
R644
C628
CN602
C603
R601
R614
R667
R602
C605
C642
C608
C652
C607
C638
R625
C658
R621
R616
1-640-773-
11
1
2
3
4
5

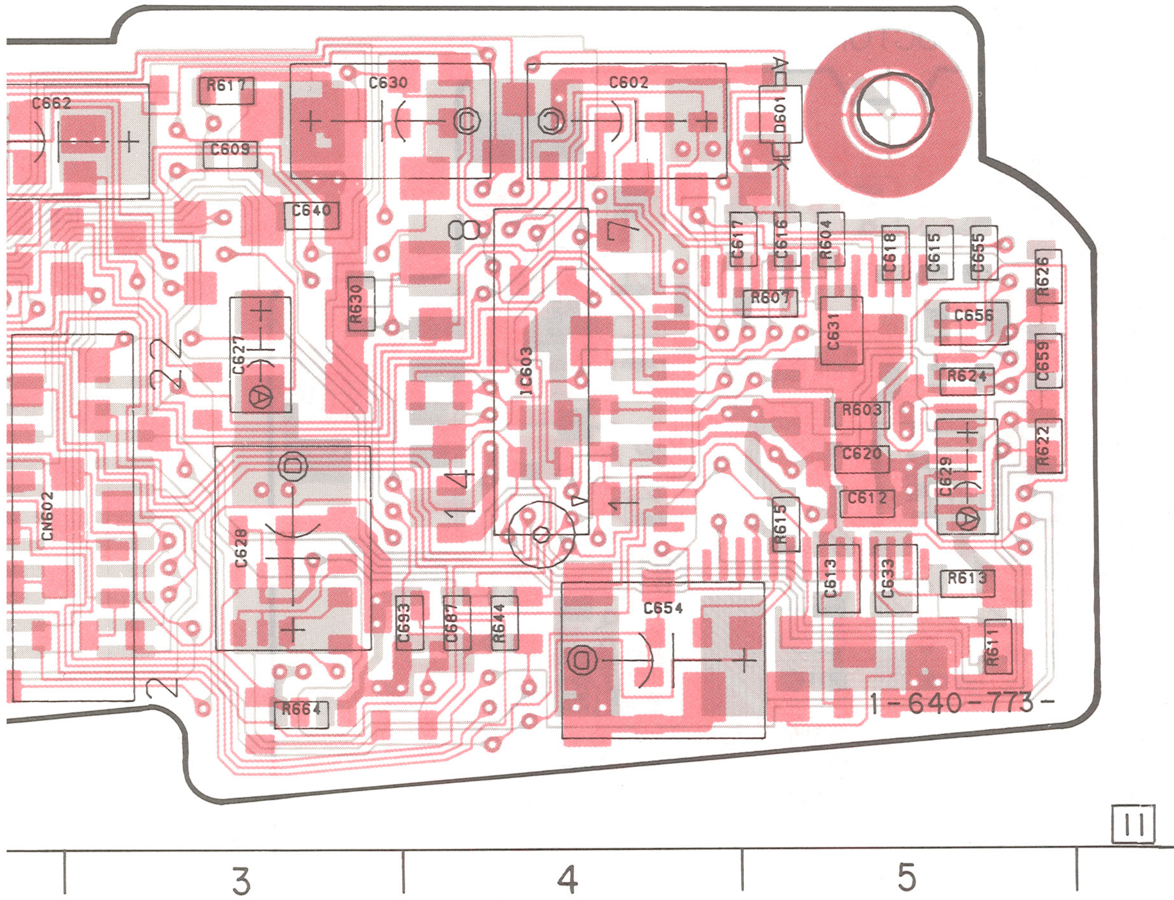
AU-119 BOARD (COND


C651
C636
C635
C641
R619
R661
C660
IC602
C614
R629
R631
C649
C645
R618
C626
R606
C647
C643
C639
12
13
48
24
37
25
36
6
7

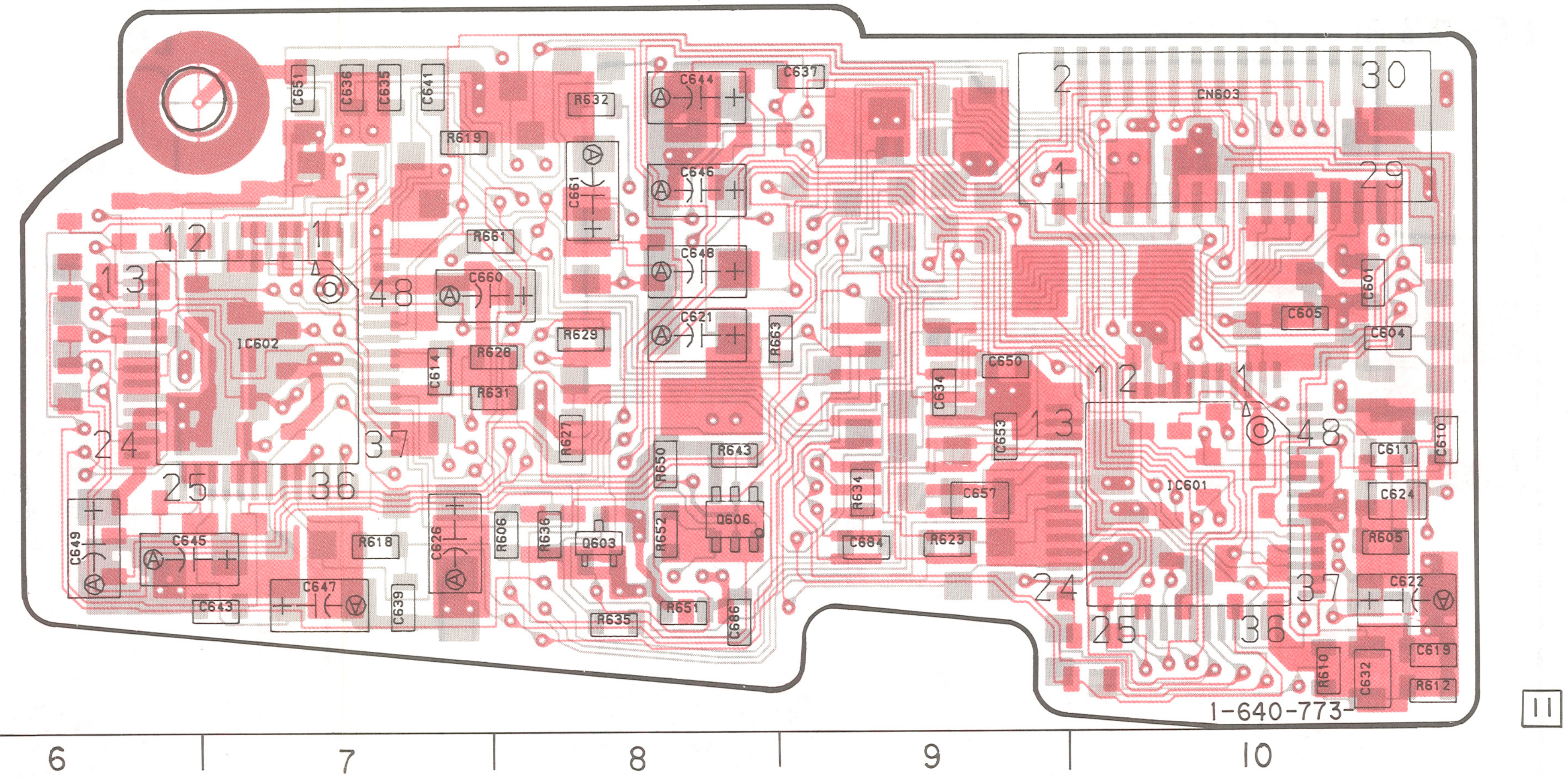
- **For printed wiring boards.**
- AU-119 board is the printed wiring board which has four layers structure but inner two layers' patterns are omitted.
- ● : Through hole is omitted.

Caution:	
Pattern face side: (Conductor Side)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Component side)	Parts on the parts face side seen from the pattern face are indicated.

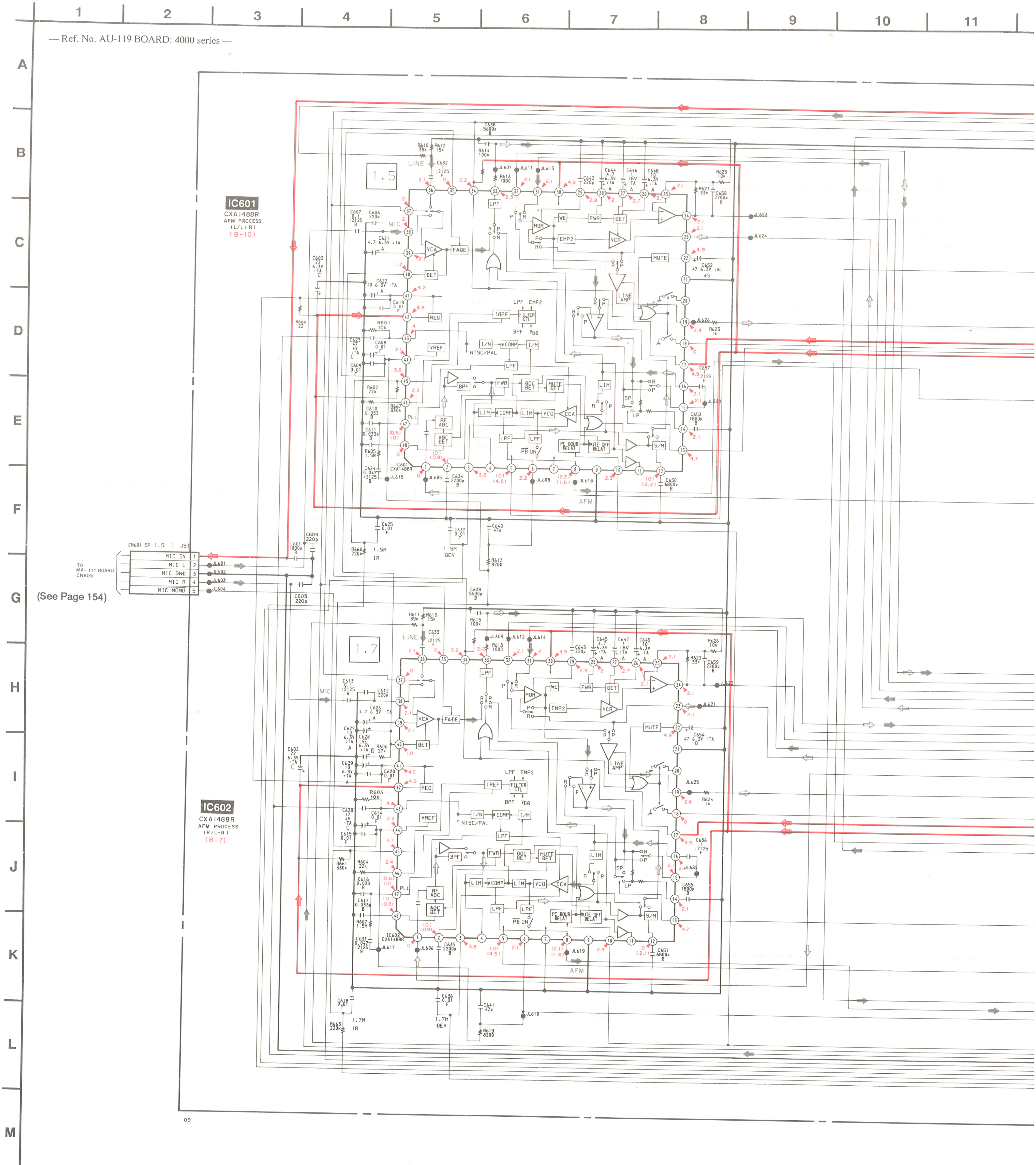
SIDE)


C662
R617
C630
C602
D601
C609
C640
R630
C627
IC603
R607
C617
C616
R604
C618
C615
C655
R626
C631
C656
C659
R624
R603
C620
C612
C629
R622
R615
CN602
C628
C693
C687
R644
C654
C613
C633
R613
R611
R664
1-640-773-
22
14
8
7
2
11
3
4
5

AU-119 BOARD (CONDUCTOR SIDE)


C651
C636
C635
C641
R619
R632
C644
C637
CN603
2
30
1
29
C661
C646
C648
C621
R661
C660
R629
R663
IC602
12
1
13
48
24
37
25
36
C614
R628
R631
R627
R650
R643
C634
C650
C653
C657
R634
C684
R623
IC601
C605
C601
C604
C611
C610
C624
R605
C622
C619
R612
R610
C632
C649
C645
C643
C647
C639
C626
R618
R606
R636
Q603
R652
Q606
R635
R651
C686
1-640-773-
11
6
7
8
9
10

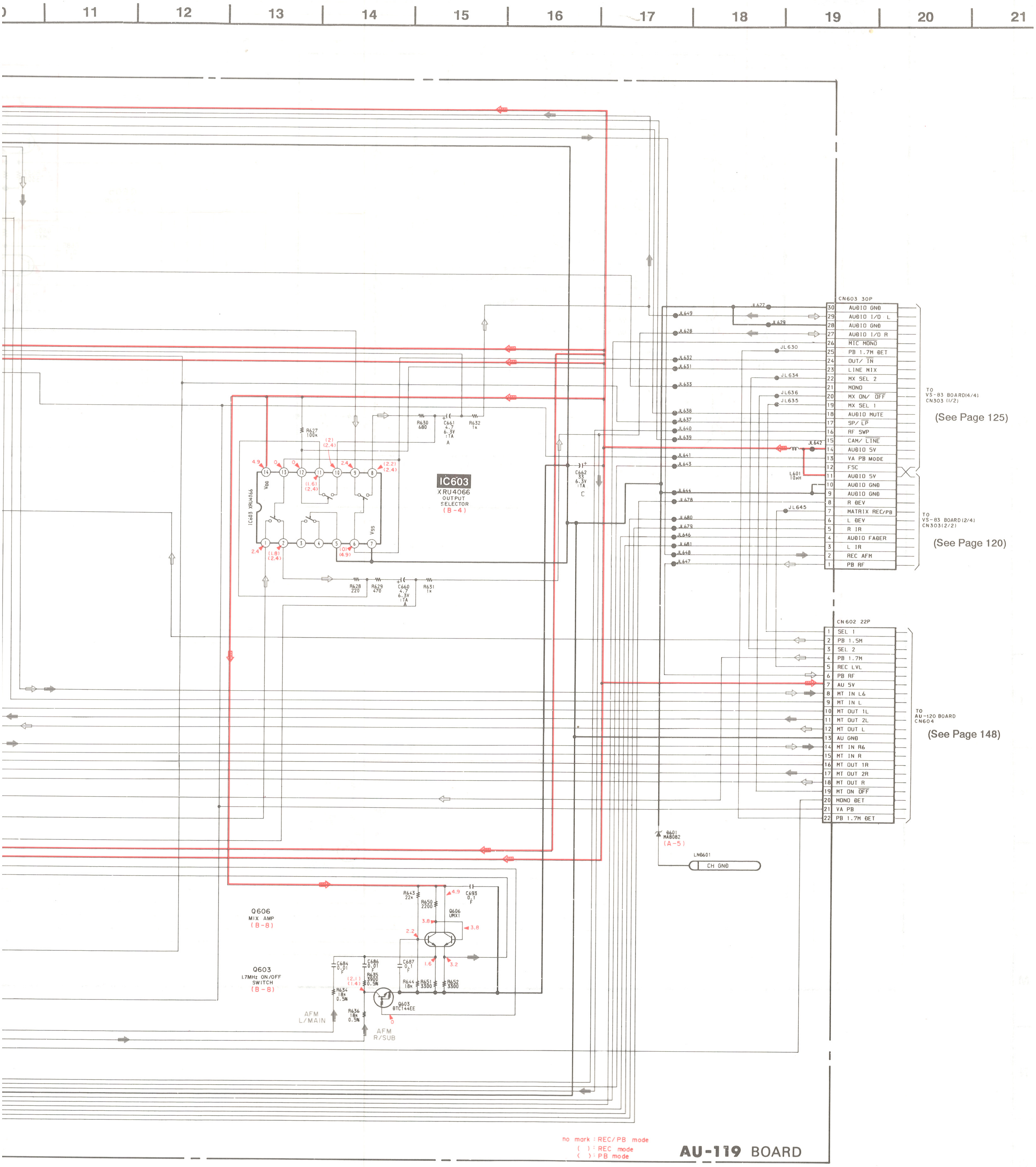
AU-119 (AFM AUDIO) SCHEMATIC DIAGRAM


— Ref. No. AU-119 BOARD: 4000 series —

1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E
F
G
H
I
J
K
L
M
IC601
CXA1488R
AFM PROCESS
(L/L+R)
(B-10)
IC602
CXA1488R
AFM PROCESS
(R/L-R)
(B-7)
CN601 5P 1.5 I JST
MIC 5V
MIC L
MIC GND
MIC R
MIC MONO
TO MA-111 BOARD CN605
(See Page 154)
LINE
MIC
VCA
FADE
DET
REG
VREF
IREF
FILTER CTL
LPF
EMP2
BPF
I/N
COMP
NTSC/PAL
MOR
WE
FWR
EMP2
VCR
MUTE
LINE AMP
PLL
RF AGC
AGC DET
LIM
VCO
CCA
DOC DET
MUTE DET
PB ON
PC DOUB DELAY
MUTE OFF DELAY
S/M
SP
LP
AFM
1.5M IR
1.5M DEV
1.7M IR
1.7M DEV
09

- SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC				➡
PB				⇨

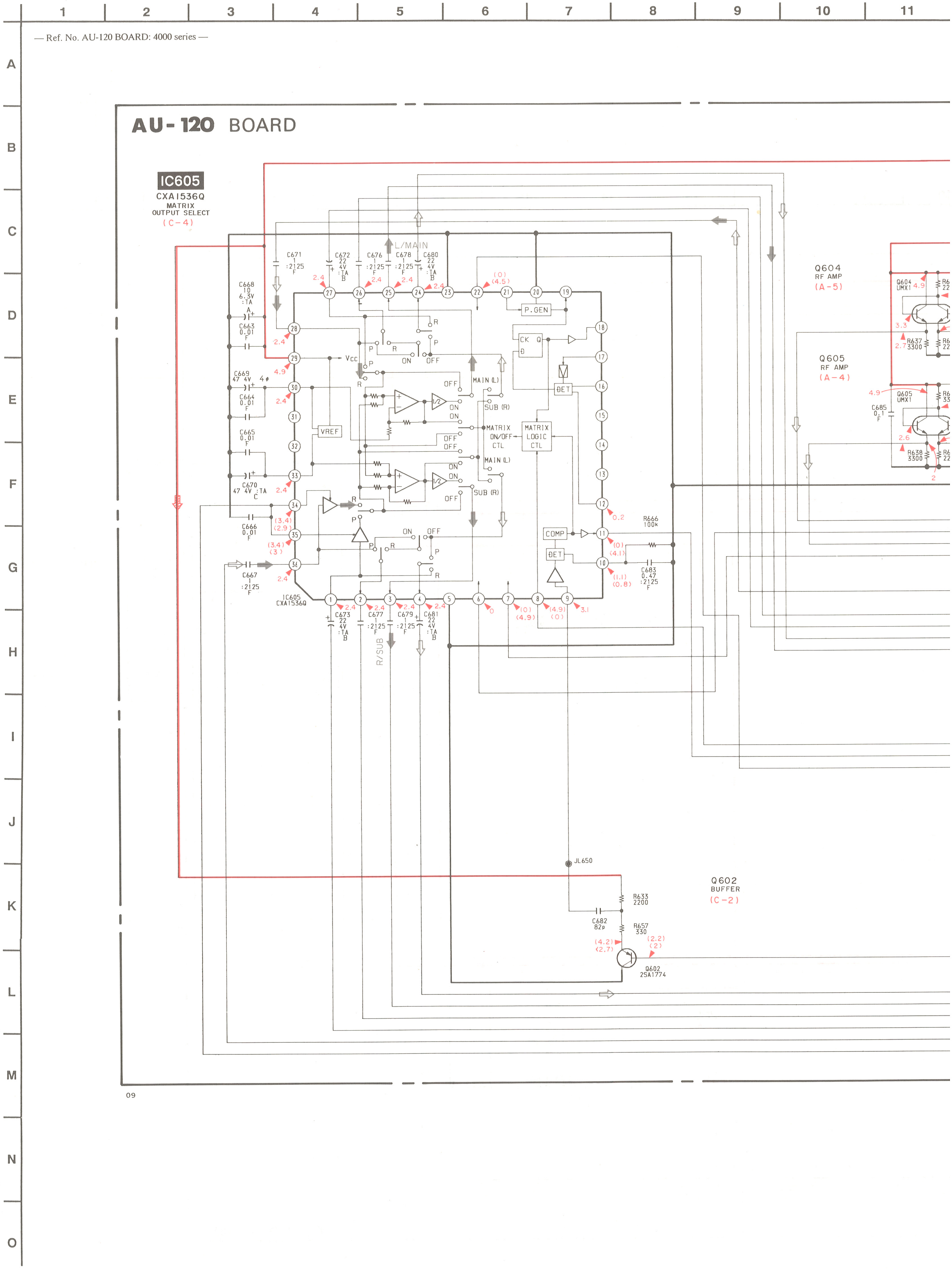

11
12
13
14
15
16
17
18
19
20
21
IC603
XRU4066
OUTPUT
SELECTOR
(B-4)
IC603 XRU4066
VDD
VSS
4.9
0
0
(1.6)
(2.4)
(2)
(2.4)
2.4
(2.2)
(2.4)
2.4
(1.8)
(2.4)
(0)
(4.9)
R627
100k
R630
680
C661
4.7
6.3V
:TA
A
R632
1k
R628
220
R629
470
C660
4.7
6.3V
:TA
A
R631
1k
C662
33
6.3V
:TA
C
JL627
JL649
JL629
JL628
JL630
JL632
JL631
JL634
JL633
JL636
JL635
JL638
JL637
JL640
JL639
JL642
JL641
JL643
L601
10μH
JL644
JL678
JL645
JL680
JL679
JL646
JL681
JL648
JL647
CN603 30P
30 AUDIO GND
29 AUDIO I/O L
28 AUDIO GND
27 AUDIO I/O R
26 MIC MONO
25 PB 1.7M DET
24 OUT/ IN
23 LINE MIX
22 MX SEL 2
21 MONO
20 MX ON/ OFF
19 MX SEL 1
18 AUDIO MUTE
17 SP/ LP
16 RF SWP
15 CAM/ LINE
14 AUDIO 5V
13 VA PB MODE
12 FSC
11 AUDIO 5V
10 AUDIO GND
9 AUDIO GND
8 R DEV
7 MATRIX REC/PB
6 L DEV
5 R IR
4 AUDIO FADER
3 L IR
2 REC AFM
1 PB RF
TO
VS-83 BOARD(4/4)
CN303 (1/2)
(See Page 125)
TO
VS-83 BOARD(2/4)
CN303(2/2)
(See Page 120)
CN602 22P
1 SEL 1
2 PB 1.5M
3 SEL 2
4 PB 1.7M
5 REC LVL
6 PB RF
7 AU 5V
8 MT IN L6
9 MT IN L
10 MT OUT 1L
11 MT OUT 2L
12 MT OUT L
13 AU GND
14 MT IN R6
15 MT IN R
16 MT OUT 1R
17 MT OUT 2R
18 MT OUT R
19 MT ON OFF
20 MONO DET
21 VA PB
22 PB 1.7M DET
TO
AU-120 BOARD
CN604
(See Page 148)
D601
MA8082
(A-5)
LND601
CH GND
Q606
MIX AMP
(B-8)
Q603
1.7MHz ON/OFF
SWITCH
(B-8)
R643
22k
4.9
C693
0.1
F
R650
2200
Q606
UMX1
3.8
3.8
2.2
1.6
3.2
C684
0.01
F
C686
0.01
F
C687
0.1
F
R635
3900
0.5W
(2.1)
(1.4)
R634
18k
0.5W
R644
18k
R651
3300
R652
3300
Q603
DTC144EE
R636
18k
0.5W
0
AFM
L/MAIN
AFM
R/SUB

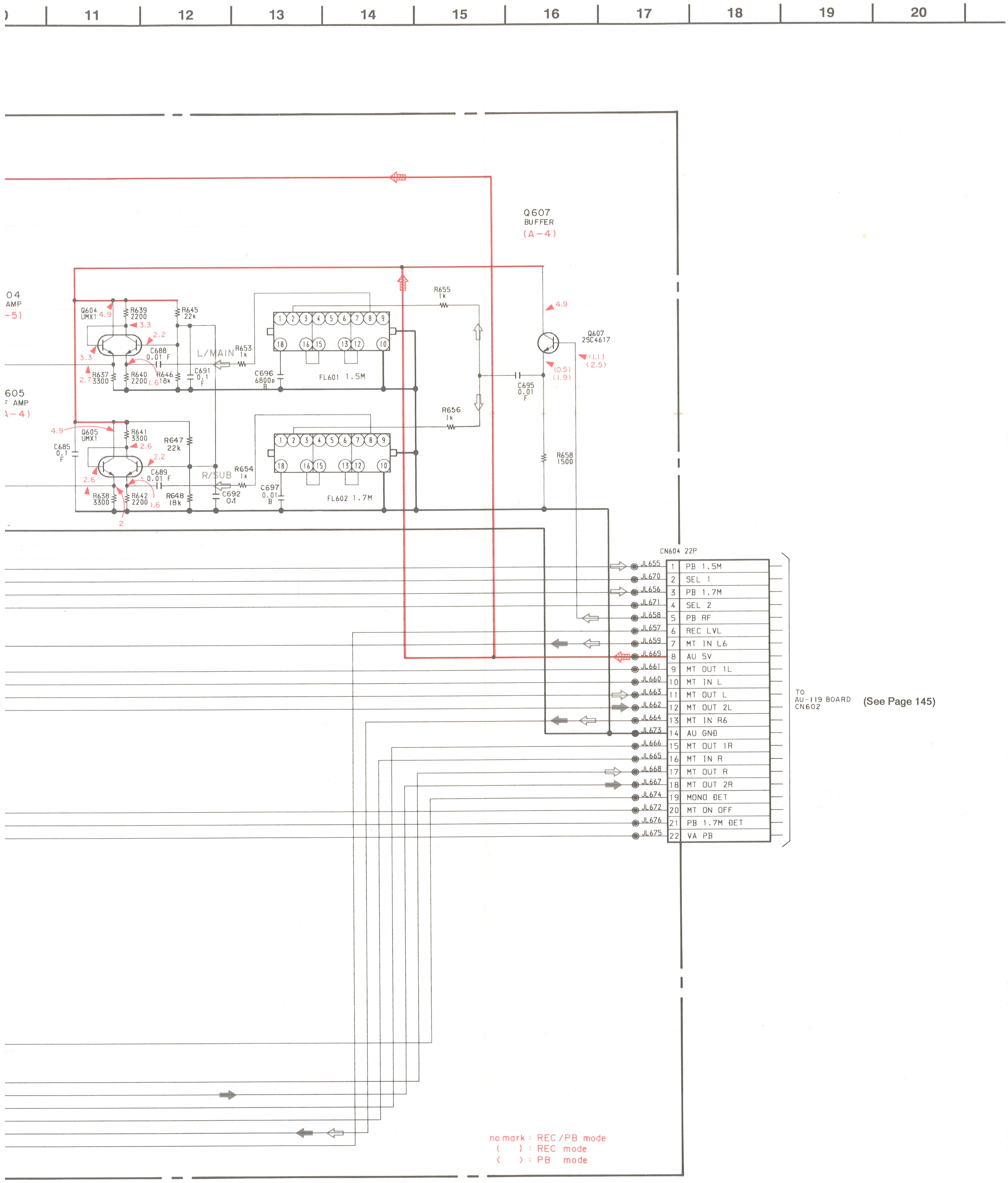
no mark : REC/PB mode
( ) : REC mode
〈 〉 : PB mode

AU-119 BOARD

AU-120 (MATRIX AMP) SCHEMATIC DIAGRAM

— Ref. No. AU-120 BOARD: 4000 series —


1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
AU-120 BOARD
IC605
CXA1536Q
MATRIX
OUTPUT SELECT
(C-4)
L/MAIN
R/SUB
Vcc
VREF
P.GEN
CK Q
D
DET
MATRIX LOGIC CTL
MATRIX ON/OFF CTL
MAIN (L)
SUB (R)
COMP
ON
OFF
IC605
CXA1536Q
C668 10 6.3V :TA
C663 0.01 F
C669 47 4V
C664 0.01 F
C665 0.01 F
C670 47 4V :TA C
C666 0.01 F
C667 1 :2125 F
C671 1 :2125 F
C672 22 4V :TA B
C676 1 :2125 F
C678 1 :2125 F
C680 22 4V :TA B
C673 22 4V :TA B
C677 1 :2125 F
C679 1 :2125 F
C681 22 4V :TA B
R666 100k
C683 0.47 :2125 F
Q604
RF AMP
(A-5)
Q605
RF AMP
(A-4)
Q604 UMX1
Q605 UMX1
R637 3300
R638 3300
C685 0.1 F
JL650
Q602
BUFFER
(C-2)
R633 2200
R657 330
C682 82p
Q602 2SA1774
09


11
12
13
14
15
16
17
18
19
20
Q607
BUFFER
(A−4)
04
AMP
-5)
605
AMP
-4)
Q604
UMX1
Q605
UMX1
R639 2200
R645 22k
R637 3300
R640 2200
R646 18k
R641 3300
R647 22k
R638 3300
R642 2200
R648 18k
C688 0.01 F
C689 0.01 F
C691 0.1 F
C692 0.1
C685 0.1 F
L/MAIN
R/SUB
R653 1k
R654 1k
R655 1k
R656 1k
R658 1500
C696 6800p B
C697 0.01 B
C695 0.01 F
FL601 1.5M
FL602 1.7M
Q607
2SC4617
4.9
(0.5)
(1.9)
(1.1)
(2.5)
3.3
2.2
2.7
1.6
2.6
2
CN604 22P
JL655
JL670
JL656
JL671
JL658
JL657
JL659
JL669
JL661
JL660
JL663
JL662
JL664
JL673
JL666
JL665
JL668
JL667
JL674
JL672
JL676
JL675
1 PB 1.5M
2 SEL 1
3 PB 1.7M
4 SEL 2
5 PB RF
6 REC LVL
7 MT IN L6
8 AU 5V
9 MT OUT 1L
10 MT IN L
11 MT OUT L
12 MT OUT 2L
13 MT IN R6
14 AU GND
15 MT OUT 1R
16 MT IN R
17 MT OUT R
18 MT OUT 2R
19 MONO DET
20 MT ON OFF
21 PB 1.7M DET
22 VA PB
TO
AU-119 BOARD
CN602

(See Page 145)

no mark : REC/PB mode
( ) : REC mode
( ) : PB mode

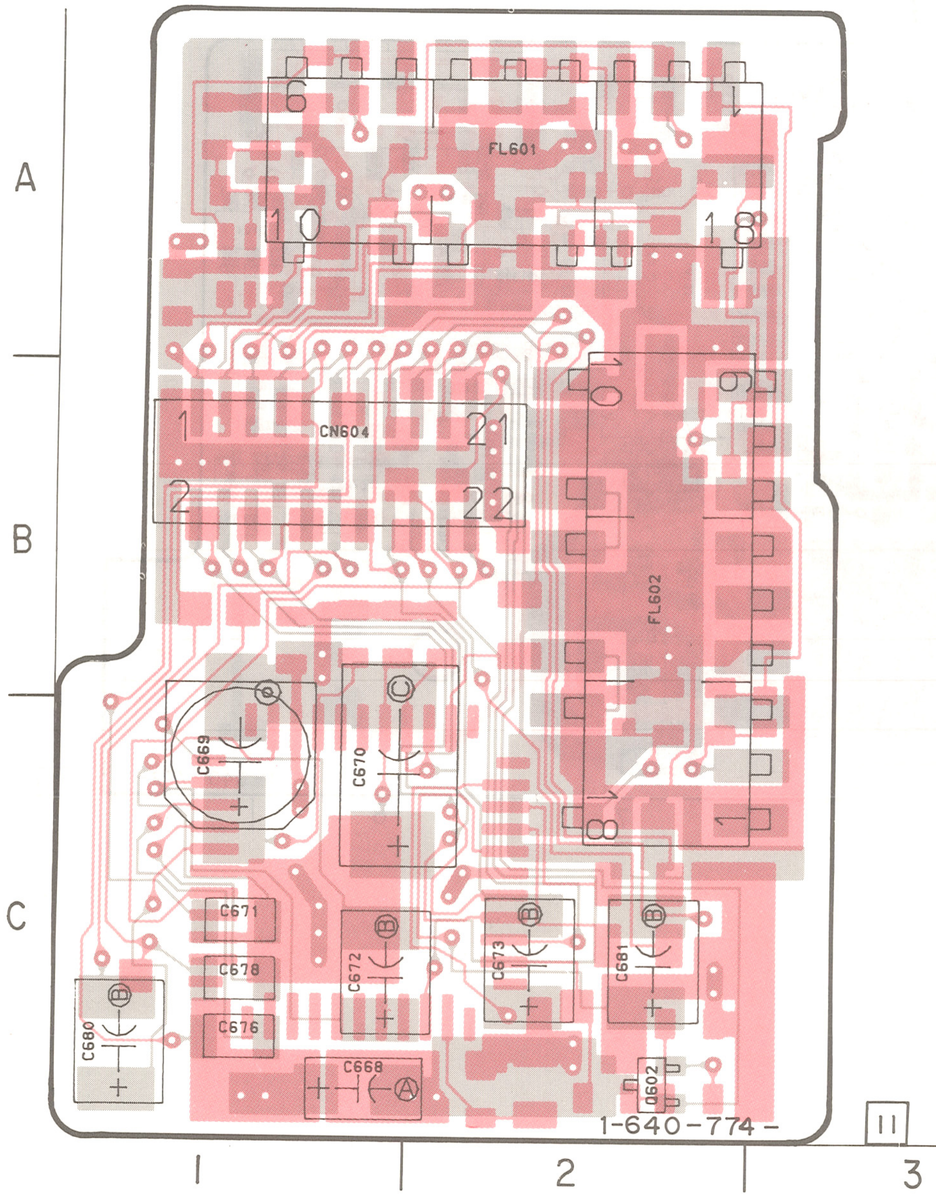
- **SIGNAL PATH**

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC				➡
PB				⇨

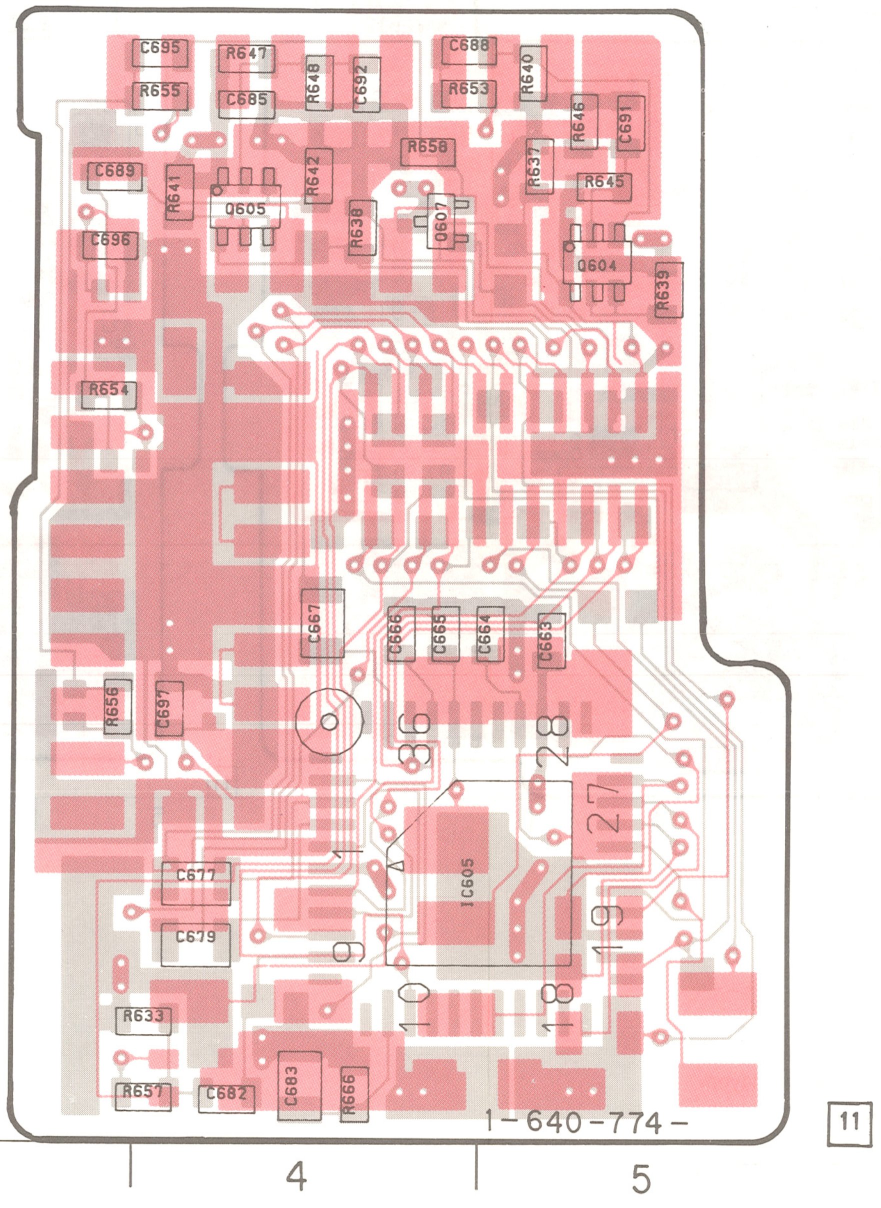
AU-120 (MATRIX AMP) PRINTED WIRING BOARD

— Ref. No. AU-120 BOARD: 4000 series —

AU-120 BOARD (COMPONENT SIDE)


A
B
C
FL601
6
10
18
1
21
2
22
CN604
FL602
9
10
8
1
C669
C670
C671
C678
C676
C672
C673
C681
C680
C668
Q602
1-640-774-
11
1
2
3

AU-120 BOARD (CONDUCTOR SIDE)


C695
R655
R647
C685
R648
C692
C688
R653
R640
R646
C691
C689
R641
Q605
R642
R638
R658
Q607
R637
R645
C696
Q604
R639
R654
C667
C666
C665
C664
C663
R656
C697
36
28
27
IC605
C677
C679
9
10
18
19
R633
R657
C682
C683
R666
1-640-774-
11
4
5

* A-7052-879-A AU-120 BOARD, COMPLETE
****
(Ref. No 4, 000 Series)

< IC >

IC605	8-759-823-21	IC	CXA1536QQ

< TRANSISTOR >

Q602	8-729-928-19	TRANSISTOR	2SA1774
Q604	8-729-927-62	TRANSISTOR	UMX1
Q605	8-729-927-62	TRANSISTOR	UMX1
Q607	8-729-425-64	TRANSISTOR	2SD2216QR

- **For printed wiring boards.**
- AU-120 board is the printed wiring board which has four layers structure but inner two layers' patterns are omitted.
- ● : Through hole is omitted.

Caution:

Pattern face side: (Conductor Side)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Component side)	Parts on the parts face side seen from the pattern face are indicated.

MA-111 (MIC AMP) PRINTED WIRING BOARD

— Ref. No. MA-111 BOARD: 6000 series —

* A-7062-882-A MA-111 BOARD, COMPLETE
****
(Ref. No 6,000 Serie

< DIODE >

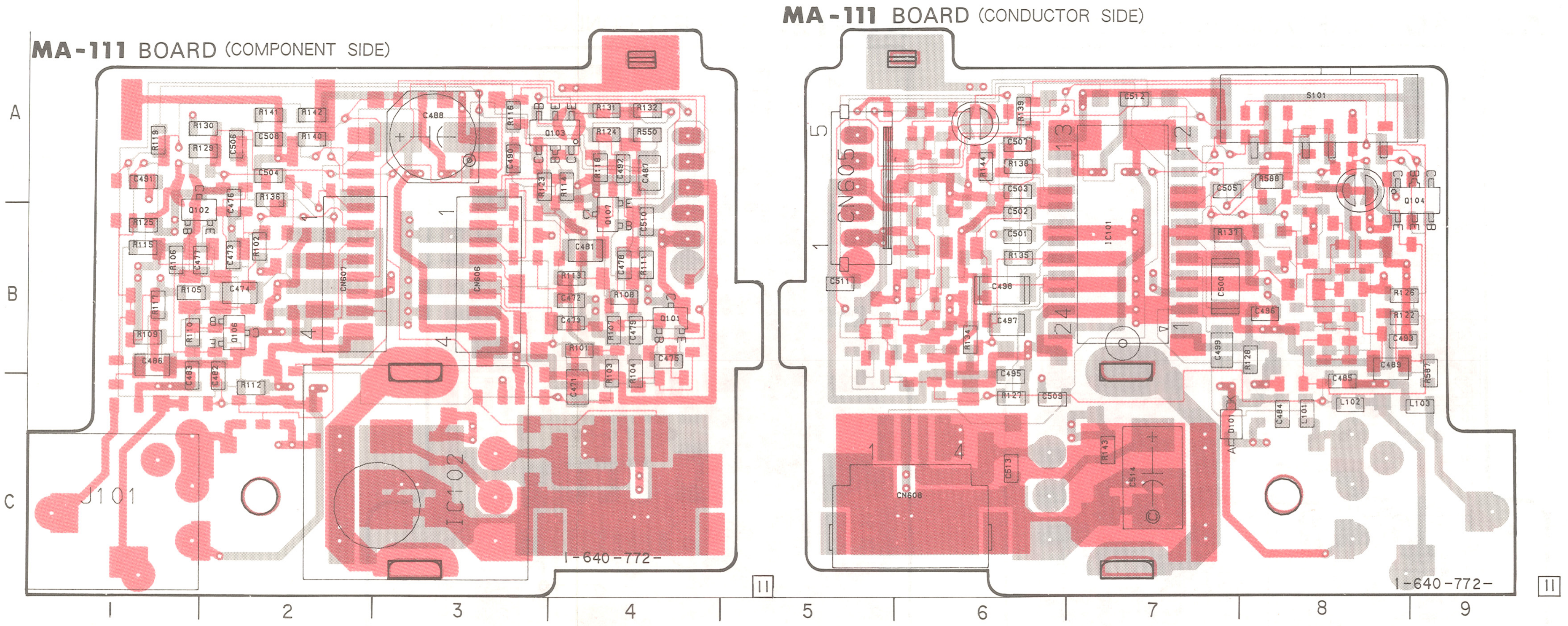
D101	8-719-420-14	DIODE	MA8082

< IC >

IC101	8-759-823-41	IC	LA7470M
IC102	8-741-100-63	IC	SBX1619-51

< TRANSISTOR >

Q101	8-729-822-97	TRANSISTOR	2SC4211-5.6.7
Q102	8-729-822-97	TRANSISTOR	2SC4211-5.6.7
Q103	8-729-822-48	TRANSISTOR	FC101
Q104	8-729-822-48	TRANSISTOR	FC101
Q106	8-729-823-00	TRANSISTOR	2SA1622-5.6.7
Q107	8-729-823-00	TRANSISTOR	2SA1622-5.6.7


MA-111 BOARD (COMPONENT SIDE)

MA-111 BOARD (CONDUCTOR SIDE)

A
B
C
1
2
3
4
5
6
7
8
9
J101
IC102
IC101
CN605
CN607
CN606
CN608
S101
Q101
Q102
Q103
Q104
Q106
Q107
D101
1-640-772-
1-640-772-
11
11

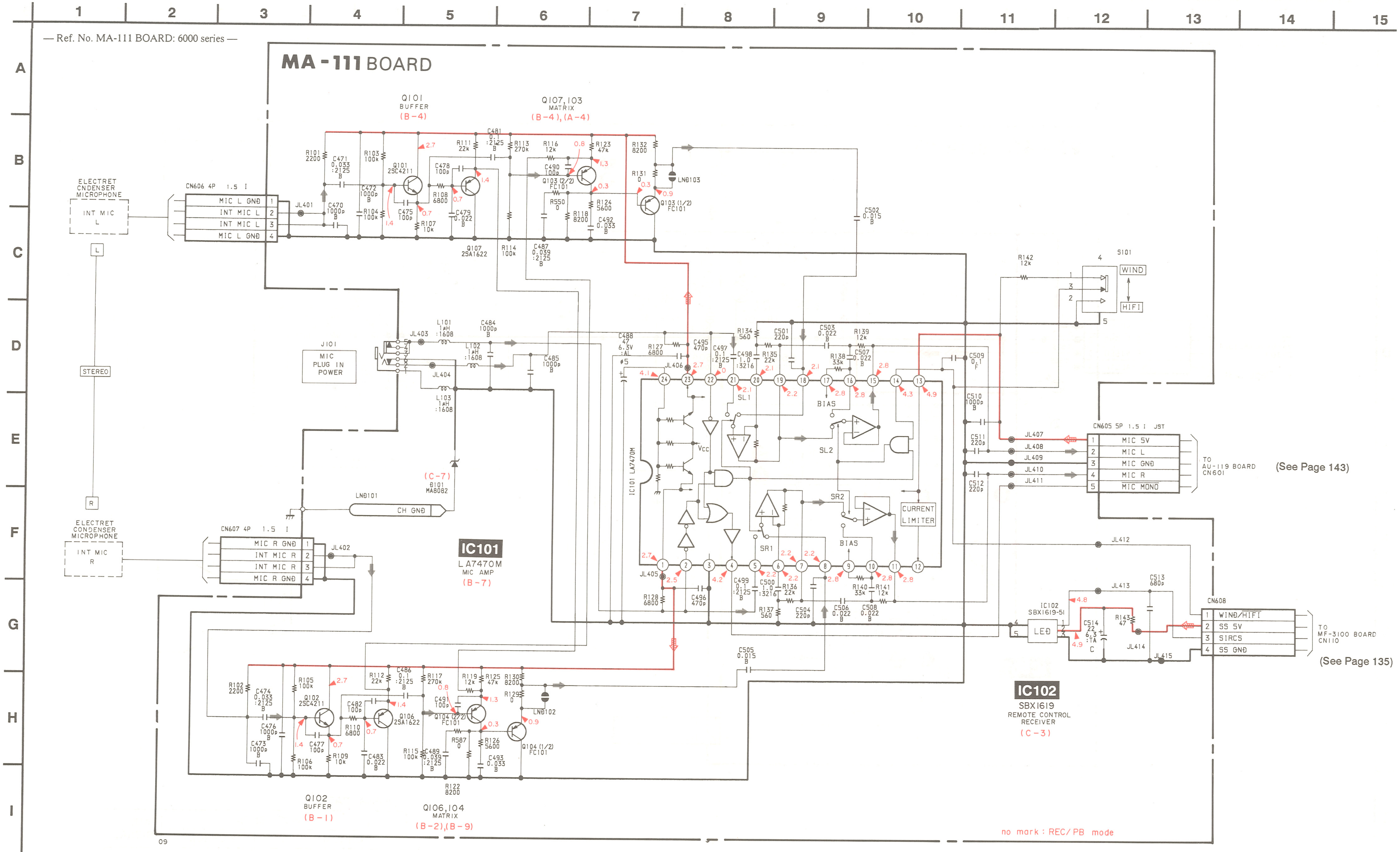
- **For printed wiring boards.**
- MA-111 board is the printed wiring board which has four layers structure but inner two layers' patterns are omitted.
- ● : Through hole is omitted.

Caution:

Pattern face side: (Conductor Side)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Component side)	Parts on the parts face side seen from the pattern face are indicated.

MA-111 (MIC AMP) SCHEMATIC DIAGRAM

— Ref. No. MA-111 BOARD: 6000 series —

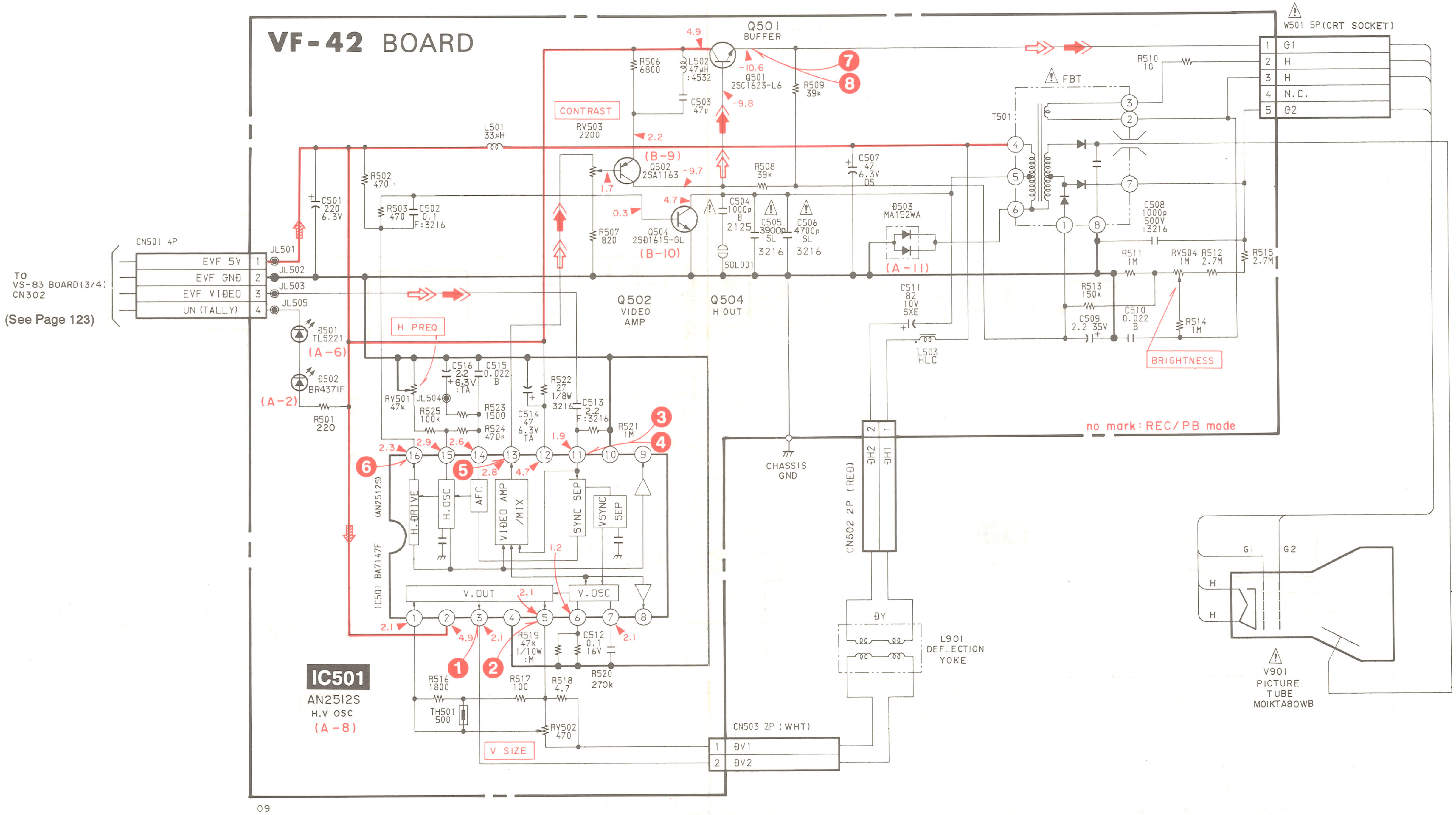

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
A
B
C
D
E
F
G
H
I
J
MA-111 BOARD
Q101
BUFFER
(B-4)
Q107,103
MATRIX
(B-4),(A-4)
ELECTRET
CONDENSER
MICROPHONE
INT MIC
L
CN606 4P 1.5 I
MIC L GND
INT MIC L
INT MIC L
MIC L GND
JL401
R101 2200
C471 0.033 :2125 B
C470 1000p B
C472 1000p B
R103 100k
R104 100k
Q101 2SC4211
C475 100p
R107 10k
C478 100p
R108 6800
C479 0.022 B
R111 22k
C481 0.1 :2125 B
R113 270k
Q107 2SA1622
R114 100k
R116 12k
C490 100p
Q103 (2/2) FC101
R550 0
R118 8200
R123 47k
R124 5600
C487 0.039 :2125 B
C492 0.033 B
R132 8200
R131 0
Q103 (1/2) FC101
LND103
C502 0.015 B
STEREO
J101
MIC PLUG IN POWER
JL403
L101 1μH :1608
C484 1000p B
L102 1μH :1608
C485 1000p B
JL404
L103 1μH :1608
(C-7)
D101 MA8082
LND101
CH GND
R
ELECTRET
CONDENSER
MICROPHONE
INT MIC
R
CN607 4P 1.5 I
MIC R GND
INT MIC R
INT MIC R
MIC R GND
JL402
IC101
LA7470M
MIC AMP
(B-7)
IC101 LA7470M
C488 47 6.3V :AL
R127 6800
JL406
C495 470p
C497 0.1 :2125 B
R134 560
C498 1.0 :3216
C501 220p
R135 22k
C503 0.022 B
R138 33k
R139 12k
C507 0.022 B
C509 0.1 F
C510 1000p B
C511 220p
C512 220p
SL1
BIAS
Vcc
SL2
SR2
SR1
BIAS
CURRENT LIMITER
JL405
R128 6800
C496 470p
C499 0.1 :2125 B
C500 1.0 :3216
R136 22k
R137 560
C504 220p
C506 0.022 B
R140 33k
R141 12k
C508 0.022 B
C505 0.015 B
R142 12k
S101
WIND
HIFI
JL407
JL408
JL409
JL410
JL411
CN605 5P 1.5 I JST
MIC 5V
MIC L
MIC GND
MIC R
MIC MONO
TO AU-119 BOARD CN601
(See Page 143)
JL412
JL413
C513 680p
IC102 SBX1619-51
LED
C514 22 6.3 :TA C
R143 47
JL414
JL415
CN608
WIND/HIFI
SS 5V
SIRCS
SS GND
TO MF-3100 BOARD CN110
(See Page 135)
IC102
SBX1619
REMOTE CONTROL RECEIVER
(C-3)
R102 2200
C474 0.033 :2125 B
C476 1000p B
C473 1000p B
R105 100k
Q102 2SC4211
R106 100k
C477 100p
R109 10k
C482 100p
R110 6800
Q106 2SA1622
C483 0.022 B
R112 22k
C486 0.1 :2125 B
R117 270k
R115 100k
C489 0.039 :2125 B
R119 12k
C491 100p
Q104 (2/2) FC101
R587 0
R125 47k
R126 5600
C493 0.033 B
R130 8200
R129 0
LND102
Q104 (1/2) FC101
R122 8200
Q102
BUFFER
(B-1)
Q106,104
MATRIX
(B-2),(B-9)
no mark : REC/PB mode
09

• **SIGNAL PATH**

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC				➡
PB				

VF-42 (VIEW FINDER) SCHEMATIC DIAGRAM

— Ref. No. VF-42 BOARD: 7000 series —


VF-42 BOARD
Q501 BUFFER
Q501 2SC1623-L6
Q502 2SA1163
Q504 2SD1615-GL
(B-9)
(B-10)
Q502 VIDEO AMP
Q504 H OUT
CONTRAST RV503 2200
R506 6800
L502 47μH :4532
C503 47p
R509 39k
R508 39k
L501 33μH
R502 470
R503 470
C502 0.1 F:3216
C501 220 6.3V
R507 820
C504 1000p B 2125
C505 3900p SL 3216
C506 4700p SL 3216
C507 47 6.3V OS
SOL001
D503 MA152WA
(A-11)
FBT
T501
C508 1000p 500V :3216
R510 10
R511 1M
RV504 1M
R512 2.7M
R515 2.7M
R513 150k
C509 2.2 35V
C510 0.022 B
R514 1M
BRIGHTNESS
C511 82 10V SXE
L503 HLC
W501 5P (CRT SOCKET)
1 G1
2 H
3 H
4 N.C.
5 G2
CN501 4P
TO VS-83 BOARD (3/4) CN302
(See Page 123)
EVF 5V 1
EVF GND 2
EVF VIDEO 3
UN (TALLY) 4
JL501
JL502
JL503
JL505
D501 TL5221
(A-6)
D502 BR4371F
(A-2)
R501 220
H PREQ
RV501 47k
JL504
C516 22 6.3V :TA
C515 0.022 B
R525 100k
R523 1500
R524 470k
C514 47 6.3V TA
R522 27 1/8W 3216
C513 2.2 F:3216
R521 1M
CHASSIS GND
CN502 2P (RED)
DH2
DH1
no mark : REC/PB mode
(AN2512S)
IC501 BA7147F
H.DRIVE
H.OSC
AFC
VIDEO AMP /MIX
SYNC SEP
VSYNC SEP
V.OUT
V.OSC
R516 1800
TH501 500
R517 100
R519 47k 1/10W :M
R518 4.7
C512 0.1 16V
R520 270k
RV502 470
V SIZE
CN503 2P (WHT)
1 DV1
2 DV2
DY
L901 DEFLECTION YOKE
G1
G2
H
H
V901 PICTURE TUBE M01KTA80WB
IC501
AN2512S
H.V OSC
(A-8)
4.9
-10.6
-9.8
2.2
-9.7
1.7
0.3
4.7
2.3
2.9
2.6
2.8
4.7
1.9
1.2
2.1
4.9
2.1
2.1
2.1
①
②
③
④
⑤
⑥
⑦
⑧
09

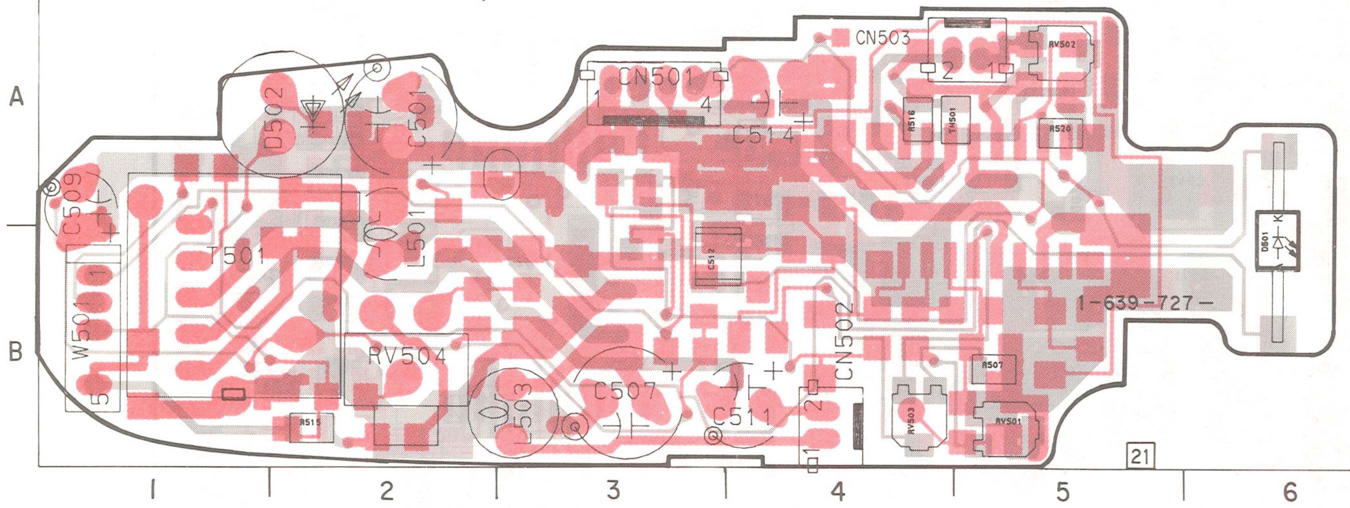
- SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC		➡		
PB		⇨		

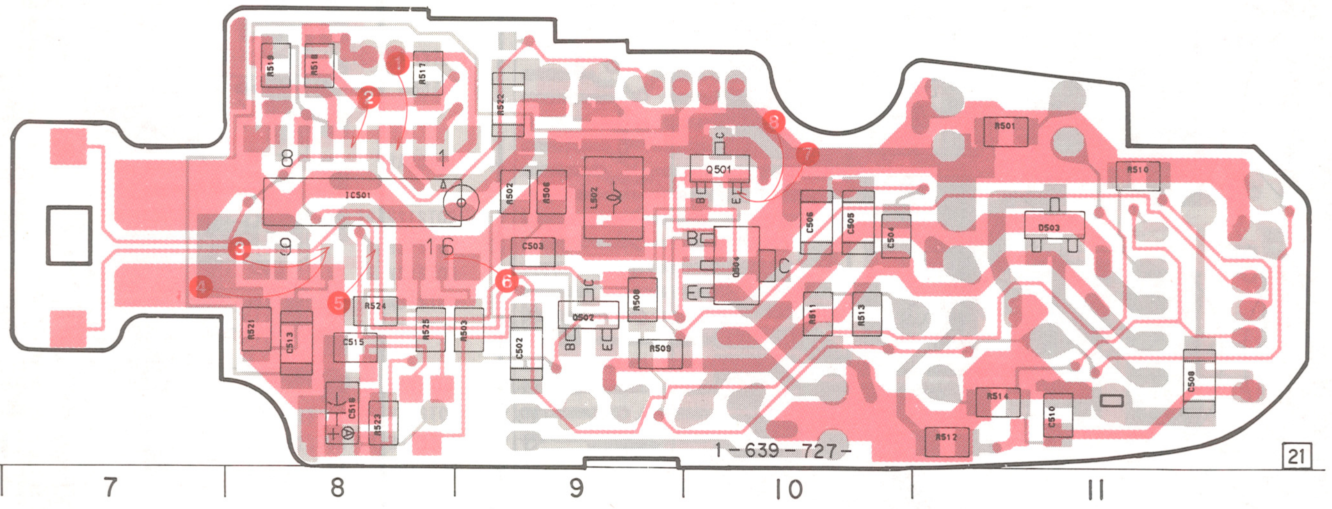
VF-42 (VIEW FINDER) PRINTED WIRING BOARD

— Ref. No. VF-42 BOARD: 7000 series —

VF-42 BOARD (COMPONENT SIDE)


A
B
CN503
RV502
CN501
C514
R516
RV501
R520
D502
D501
C509
T501
L501
W501
RV504
D503
C507
C511
CN502
R507
RV503
RV501
R515
C517
1-639-727-
21
1
2
3
4
5
6

VF-42 BOARD (CONDUCTOR SIDE)


R518
R519
R517
R522
IC501
Q501
R501
R510
D503
Q502
Q504
L502
C503
R524
C515
C513
C502
R509
R508
R506
R511
R513
C506
C508
C504
R514
R512
C510
C505
1-639-727-
21
7
8
9
10
11

- **For printed wiring boards.**

Caution:

Pattern face side: (Conductor Side)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Component side)	Parts on the parts face side seen from the pattern face are indicated.

* A-7062-880-A VF-42P BOARD, COMPLETE
****
(Ref. No 7, 000 Series)

< DIODE >

D501	8-719-820-65	DIODE	TLS221
D502	8-719-984-02	LED	BR4371F
D503	8-719-400-20	DIODE	MA152WA

< IC >

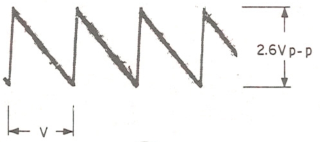
IC501	8-759-420-01	IC	AN2512S

< TRANSISTOR >

Q502	8-729-216-31	TRANSISTOR	2SA1163
Q504	8-729-106-68	TRANSISTOR	2SD1615A

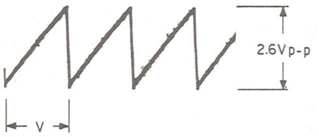
VF-42 BOARD

1



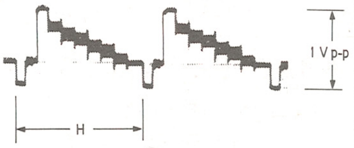
IC501 ③ REC/PB

2



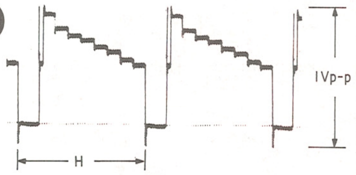
IC501 ⑤ REC/PB

3



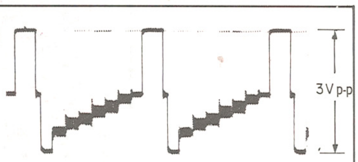
IC501 ⑪ REC

4



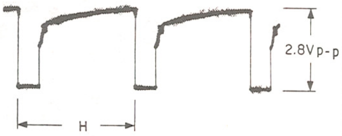
IC501 ⑪ PB

5



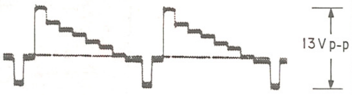
IC501 ⑬ REC/PB

6



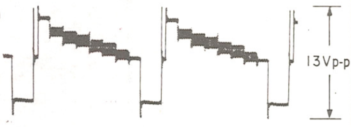
IC501 ⑯ REC/PB

7



Q501 Ⓔ REC

8



Q501 Ⓔ PB

DD-37 (DC-DC CONVERTER, SERVO CONTROL) PRINTED WIRING BOARD

— Ref. No. DD-37 BOARD: 8000 series —

* A-7062-874-A DD-37 BOARD, COMPLETE
****
(Ref. No 8,000 Series)

< DIODE >

D922	8-719-981-59	DIODE	FC805
D928	8-719-404-46	DIODE	MA110

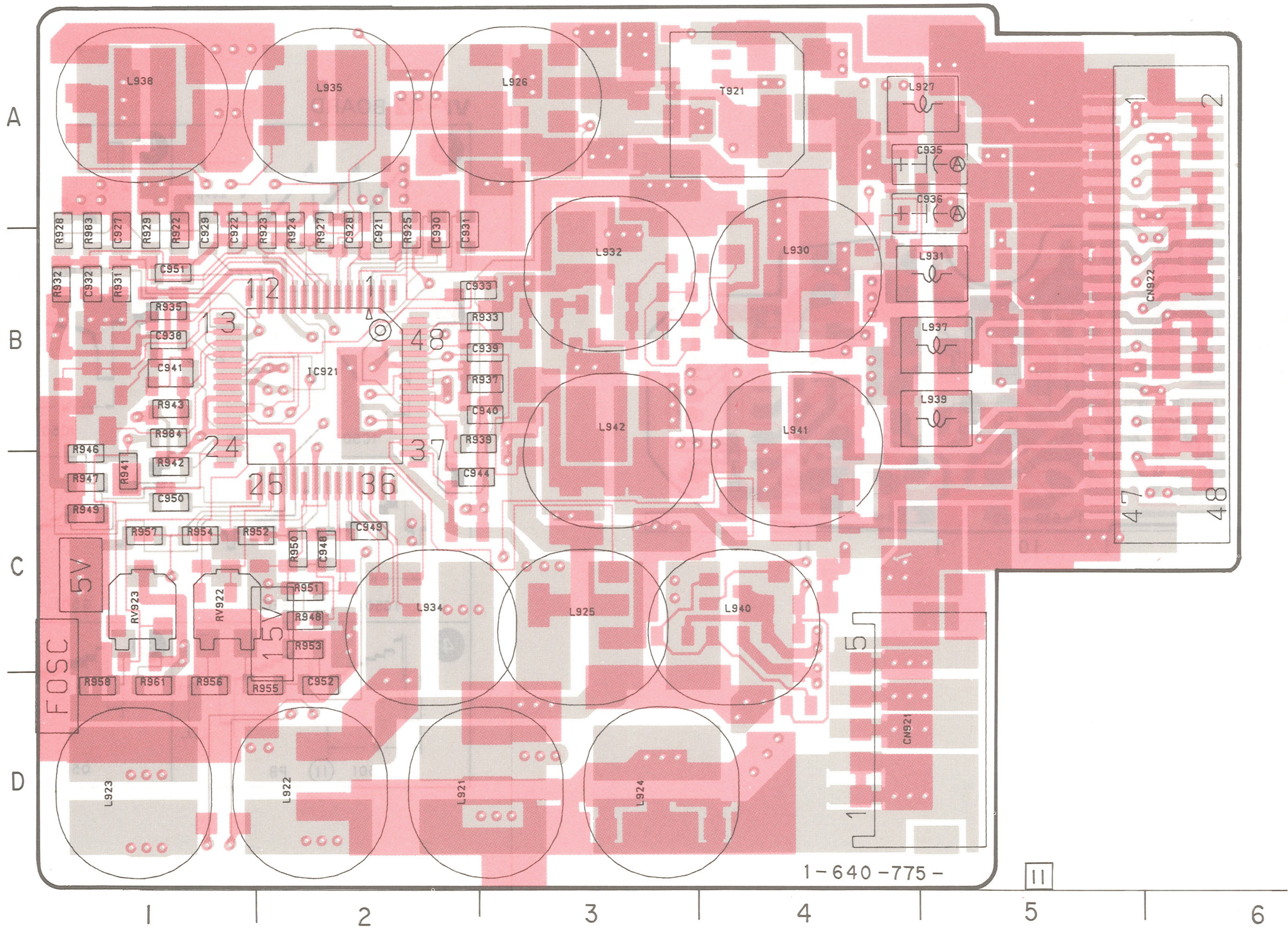
< IC >

IC921	8-759-500-42	IC	MB3783PFV
IC922	8-759-500-42	IC	MB3783PFV

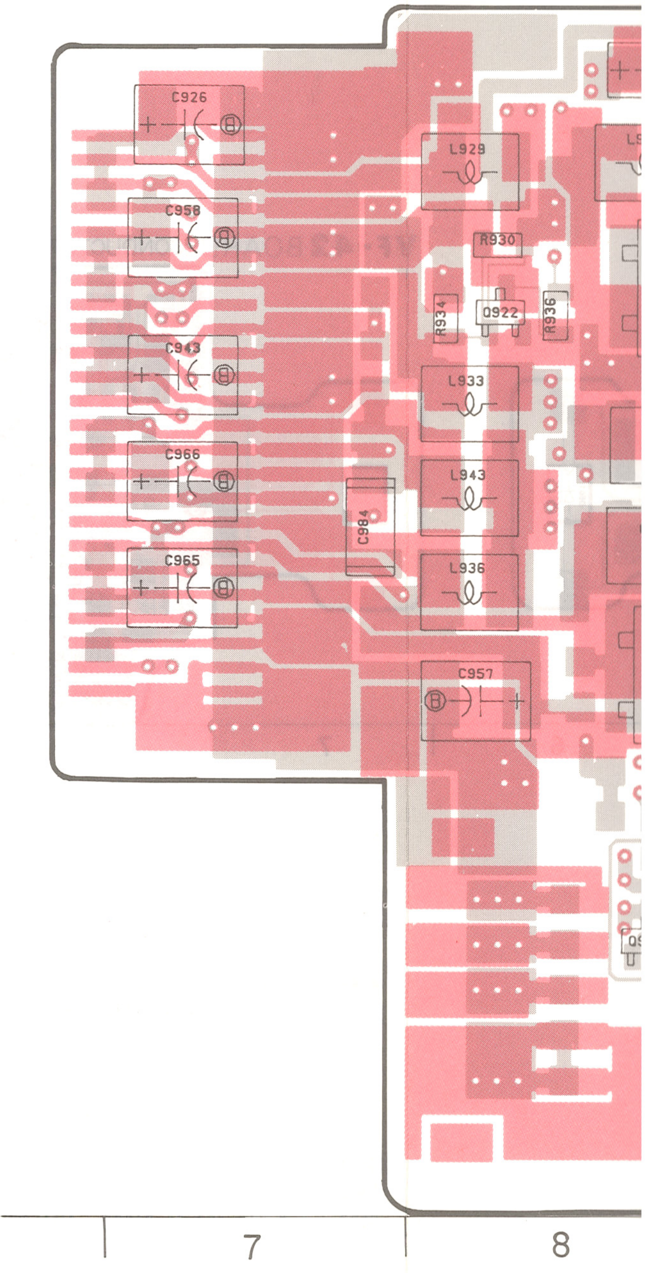
< TRANSISTOR >

Q921	8-729-823-82	TRANSISTOR	FP101
Q922	8-729-928-27	TRANSISTOR	DTA144EE
Q923	8-729-822-82	TRANSISTOR	2SK1311
Q924	8-729-823-84	TRANSISTOR	FP102
Q925	8-729-425-64	TRANSISTOR	2SD2216QR
Q926	8-729-425-64	TRANSISTOR	2SD2216QR
Q927	8-729-823-82	TRANSISTOR	FP101
Q928	8-729-823-84	TRANSISTOR	FP102
Q929	8-729-823-84	TRANSISTOR	FP102
Q930	8-729-823-82	TRANSISTOR	FP101
Q931	8-729-805-25	TRANS!STOR	2SB1121
Q932	8-729-928-81	TRANSISTOR	DTC144EE
Q933	8-729-928-19	TRANSISTOR	2SA1774
Q934	8-729-425-64	TRANSISTOR	2SD2216QR

DD-37 BOARD (COMPONENT SIDE)


A
B
C
D
1
2
3
4
5
6
L938
L935
L926
T921
L927
C935
C936
L931
L937
L939
L932
L930
L942
L941
CN922
2
47
48
R928
R983
C927
R929
R922
C929
C922
R923
R924
R927
C928
C921
R925
C930
C931
R932
C932
R931
C951
R935
C938
C941
R943
R984
R942
R946
R947
R941
R949
C950
IC921
12
1
13
48
24
37
25
36
C933
R933
C939
R937
C940
R939
C944
R957
R954
R952
R950
C948
C949
5V
FOSC
RV923
RV922
15V
R951
R948
R953
R958
R961
R956
R955
C952
L934
L925
L940
5
CN921
1
L923
L922
L921
L924
1-640-775-
11

DD-37 BOARD (CONDUCTOR SIDE)

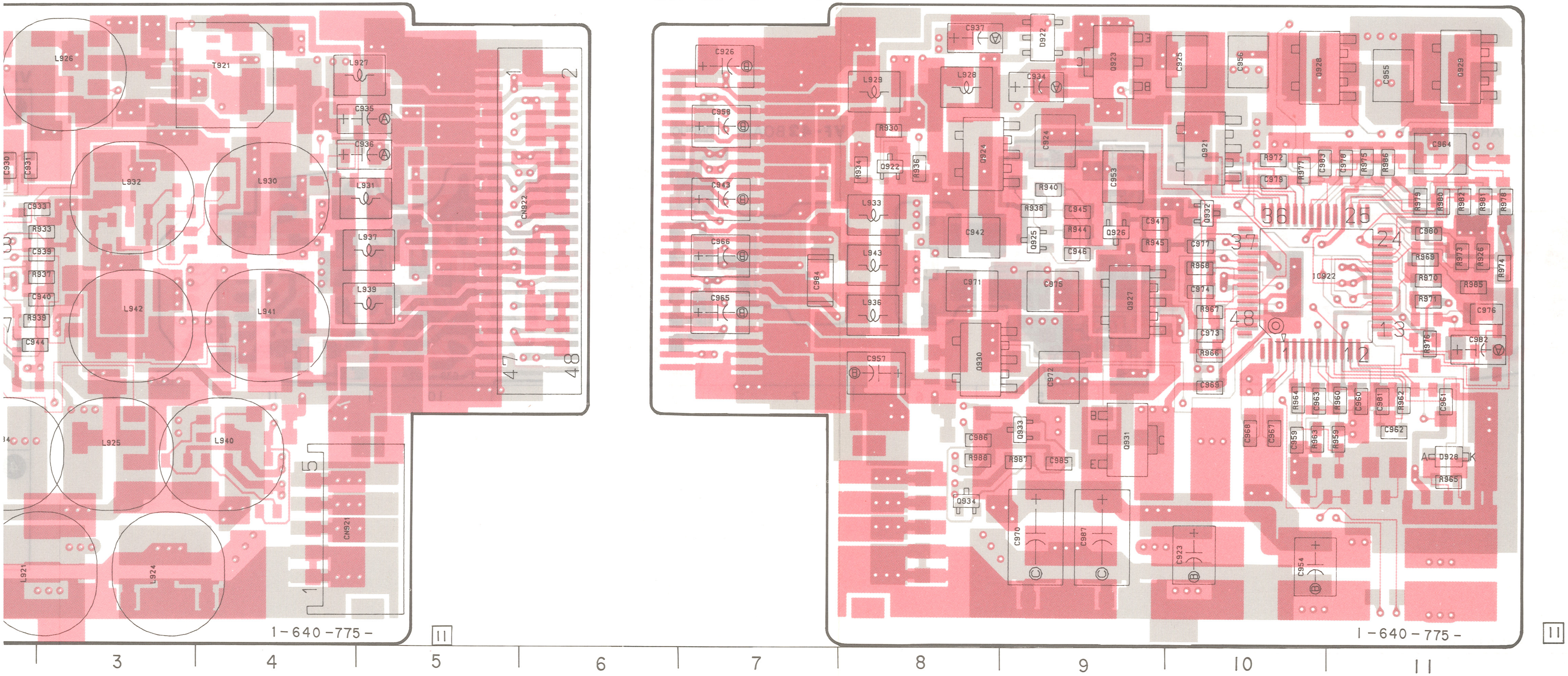

7
8
C926
C958
C943
C966
C965
C957
L929
R930
R934
Q922
R936
L933
L943
C984
L936

- **For printed wiring boards.**
- DD-37 board is the printed wiring board which has four layers structure but inner two layers' patterns are omitted.
- ● : Through hole is omitted.

Caution:	
Pattern face side: (Conductor Side)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Component side)	Parts on the parts face side seen from the pattern face are indicated.

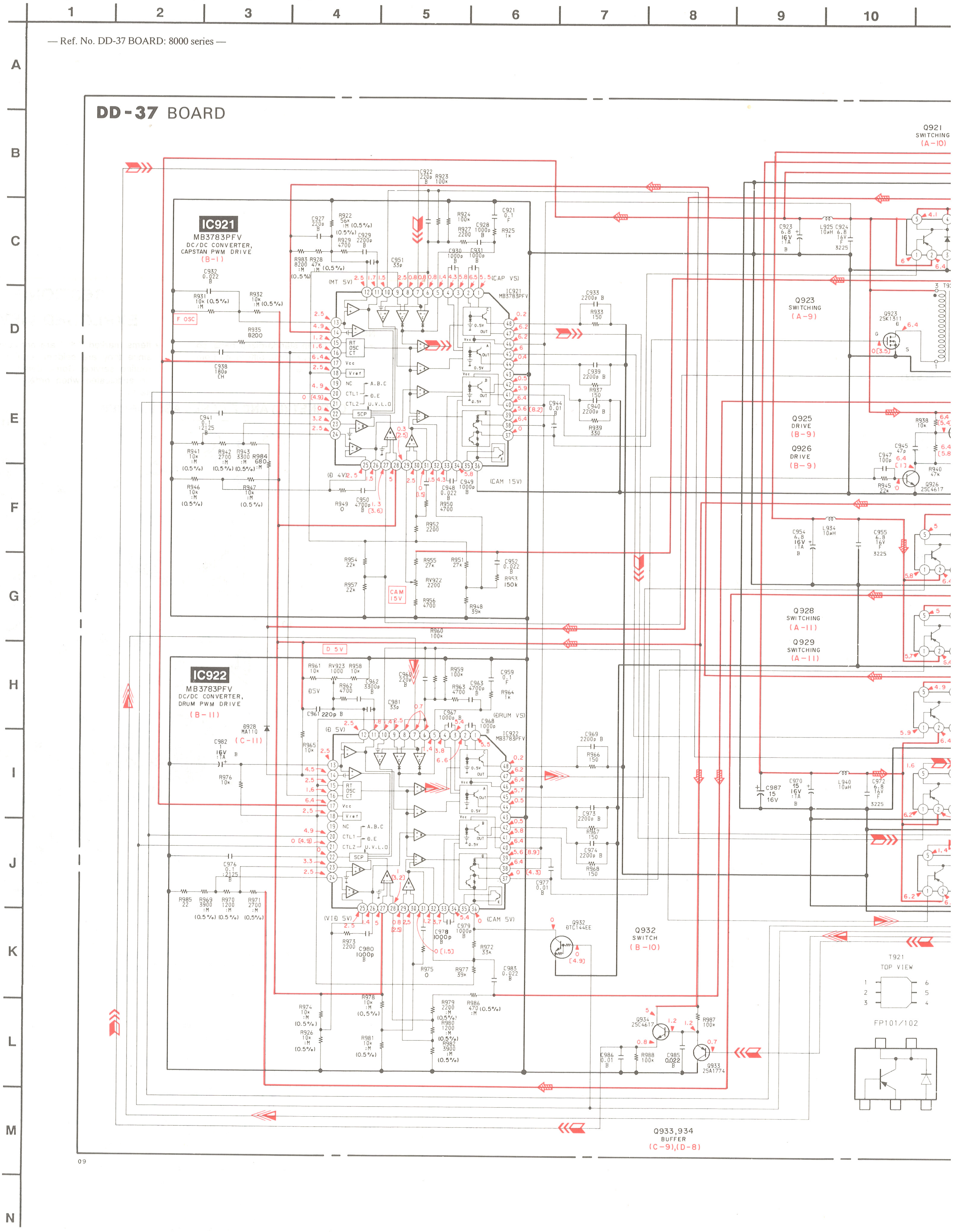
IDE)

DD-37 BOARD (CONDUCTOR SIDE)


L926
T921
L927
C935
C936
L931
L937
L939
L932
L930
L942
L941
L925
L940
L921
L924
C930
C931
C933
R933
C939
R937
C940
R939
C944
CN922
CN921
1-640-775-
C926
C958
C943
C966
C965
C984
C957
L929
R930
R934
Q922
R936
L933
L943
L936
L928
C937
D922
C934
Q924
C924
R940
R938
C945
R944
C946
Q925
Q926
C942
C953
C947
R945
C971
C975
Q927
Q930
C972
Q933
C986
R988
R987
C985
Q934
C970
C987
Q931
C923
C954
Q923
C925
C956
Q928
C955
Q929
Q921
R972
C979
R977
C983
C978
R975
R986
C964
Q932
C977
R968
C974
R967
C973
R966
C969
IC922
R979
R980
R982
R981
R978
C980
R969
R973
R926
R974
R970
R985
R971
C976
R976
C982
R964
C963
R960
C950
C981
R962
C961
C968
C967
C959
R963
R959
C962
D928
R965
36
25
37
24
48
13
1
12
1-640-775-
3
4
5
6
7
8
9
10
11

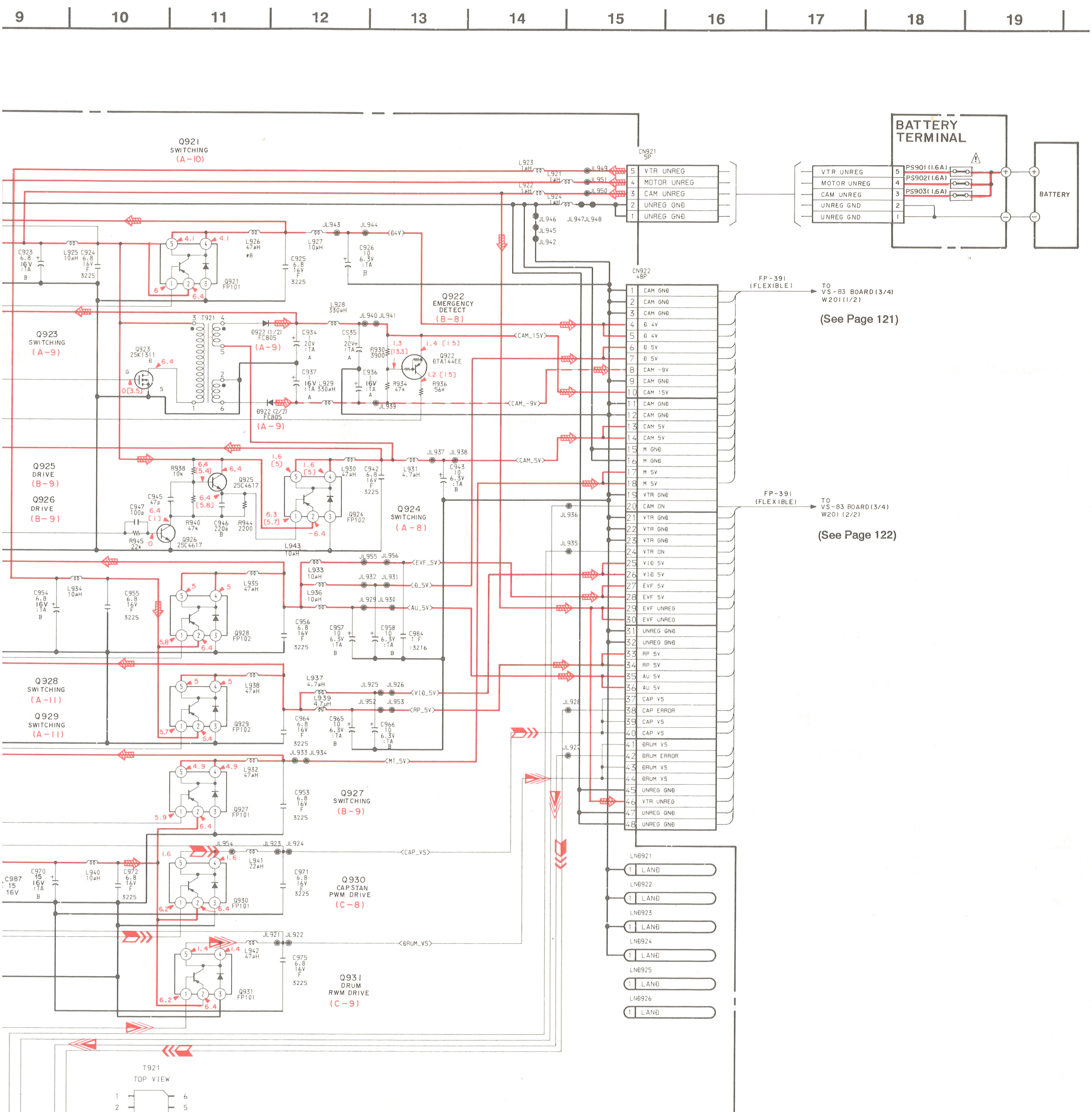
s

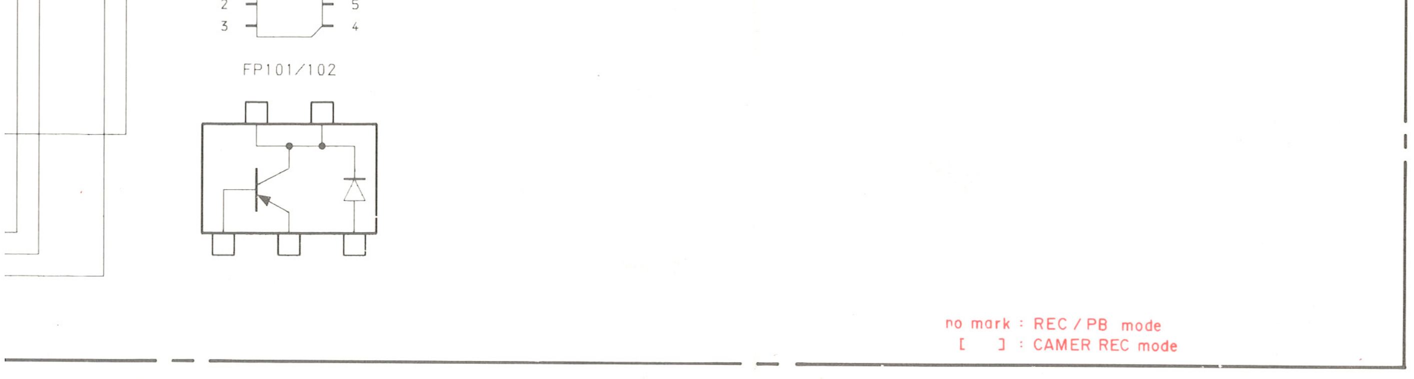
DD-37 (DC-DC CONVERTER, SERVO CONTROL) SCHEMATIC DIAGRAM



— Ref. No. DD-37 BOARD: 8000 series —

1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
G
H
I
J
K
L
M
N
DD-37 BOARD
IC921
MB3783PFV
DC/DC CONVERTER,
CAPSTAN PWM DRIVE
(B-1)
F OSC
(MT 5V)
(CAP VS)
IC921 MB3783PFV
(CAM 15V)
CAM 15V
IC922
MB3783PFV
DC/DC CONVERTER,
DRUM PWM DRIVE
(B-11)
D 5V
D5V
(DRUM VS)
IC922 MB3783PFV
(CAM 5V)
D928 MA110
(C-11)
Q921
SWITCHING
(A-10)
Q923
SWITCHING
(A-9)
Q923 2SK1311
Q925
DRIVE
(B-9)
Q926
DRIVE
(B-9)
Q926 2SC4617
Q928
SWITCHING
(A-11)
Q929
SWITCHING
(A-11)
Q932 DTC144EE
Q932
SWITCH
(B-10)
Q934 2SC4617
Q933 2SA1774
Q933,934
BUFFER
(C-9),(D-8)
T921
TOP VIEW
FP101/102
09


9
10
11
12
13
14
15
16
17
18
19
BATTERY TERMINAL
BATTERY
PS901 (1.6A)
PS902 (1.6A)
PS903 (1.6A)
CN921 5P
VTR UNREG
MOTOR UNREG
CAM UNREG
UNREG GND
UNREG GND
CN922 48P
FP-391 (FLEXIBLE)
TO VS-83 BOARD (3/4) W201 (1/2)
(See Page 121)
FP-391 (FLEXIBLE)
TO VS-83 BOARD (3/4) W201 (2/2)
(See Page 122)
Q921 SWITCHING (A-10)
Q922 EMERGENCY DETECT (B-8)
Q923 SWITCHING (A-9)
Q924 SWITCHING (A-8)
Q925 DRIVE (B-9)
Q926 DRIVE (B-9)
Q927 SWITCHING (B-9)
Q928 SWITCHING (A-11)
Q929 SWITCHING (A-11)
Q930 CAPSTAN PWM DRIVE (C-8)
Q931 DRUM RWM DRIVE (C-9)
D922 (1/2) FC805 (A-9)
D922 (2/2) FC805 (A-9)
T921
CAM 15V
CAM -9V
CAM 5V
D 4V
D 5V
EVF 5V
AU 5V
VID 5V
RP 5V
MT 5V
CAP VS
DRUM VS
LND921 LAND
LND922 LAND
LND923 LAND
LND924 LAND
LND925 LAND
LND926 LAND


T921
TOP VIEW
FP101/102

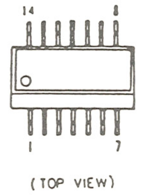
no mark : REC / PB mode
[ ] : CAMER REC mode

- **SIGNAL PATH**

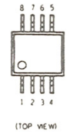
	REC	REC/PB	PB
Drum speed servo			
Drum phase servo			
Drum servo (speed and phase)		⇛	
Capstan speed servo			
Capstan phase servo			
Capstan servo (speed and phase)		⇛	
Ref. signal			

4-3. SEMICONDUCTORS

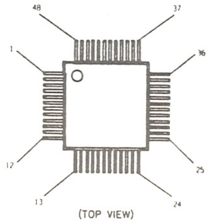
AN2512S


14
8
1
7
(TOP VIEW)

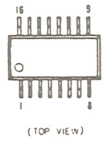
CAT35C202K
NJM2235M


8 7 6 5
1 2 3 4
(TOP VIEW)

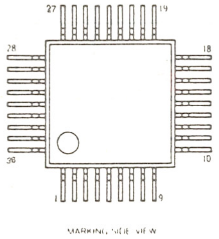
CXA1208R
CXA1481R
CXA-1488


48
37
1
36
12
25
13
24
(TOP VIEW)

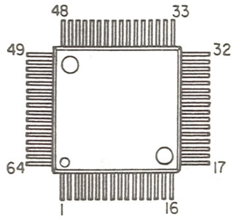
CXA1448N
CXA1452
CXD2107M
CXL5502M
MPC1726M


16
9
1
8
(TOP VIEW)

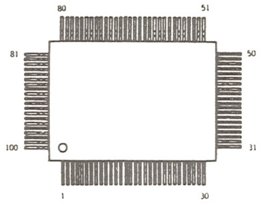
CXA1536Q
LB8110M


27
19
28
18
30
10

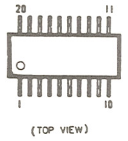
CXD1257R


48
33
49
32
64
17
1
16

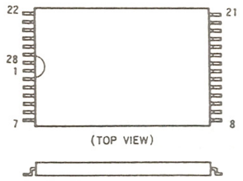
CXD2100Q
CXP80624-236Q/244Q
CXP80624-227Q/235Q


80
51
81
50
100
31
1
30

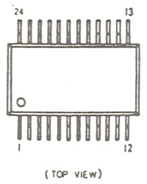
CXD2104N
M62352GP
MB88362PF-V
MB-90071-105-PF
MPC1724M


20
11
1
10
(TOP VIEW)

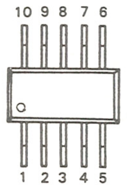
CXK5864BTM-12LL


22
21
28
1
7
8
(TOP VIEW)

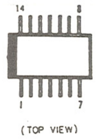
LA7470M


24
13
1
12
(TOP VIEW)

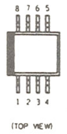
LB1830M


10 9 8 7 6
1 2 3 4 5

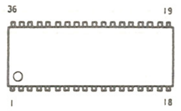
LM324D


14
8
1
7
(TOP VIEW)

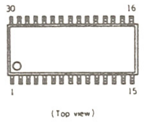
LM358D


8 7 6 5
1 2 3 4
(TOP VIEW)

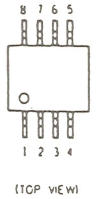
MCD002AM



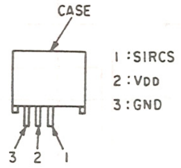
MCD004AM


30
16
1
15
(Top view)

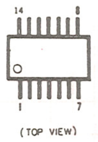
RC3414M
μPC1037GR


8 7 6 5
1 2 3 4
(TOP VIEW)

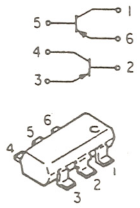
SBX1619


CASE
1 :SIRCS
2 :VDD
3 :GND
3 2 1

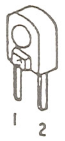
TL1596CDB
XRU4066BF


14
8
1
7
(TOP VIEW)

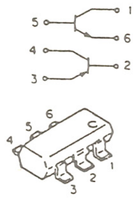
FC101



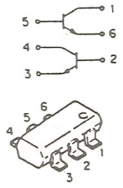
PT4850F



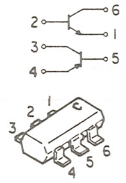
UMD2



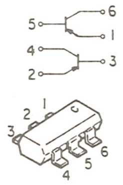
UMH2
UMH11
UMX1



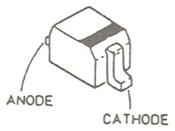
XP4601



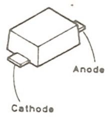
XP6401



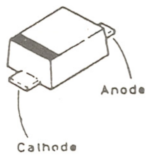
MA110


ANODE
CATHODE

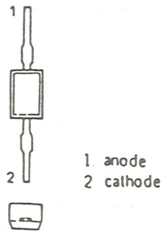
MA728


Anode
Cathode

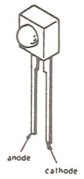
MA8082-M


Anode
Cathode

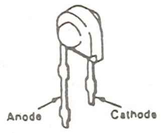
TLS221


1
2
1 anode
2 cathode

BR4371F


anode
cathode

GL453


Anode
Cathode

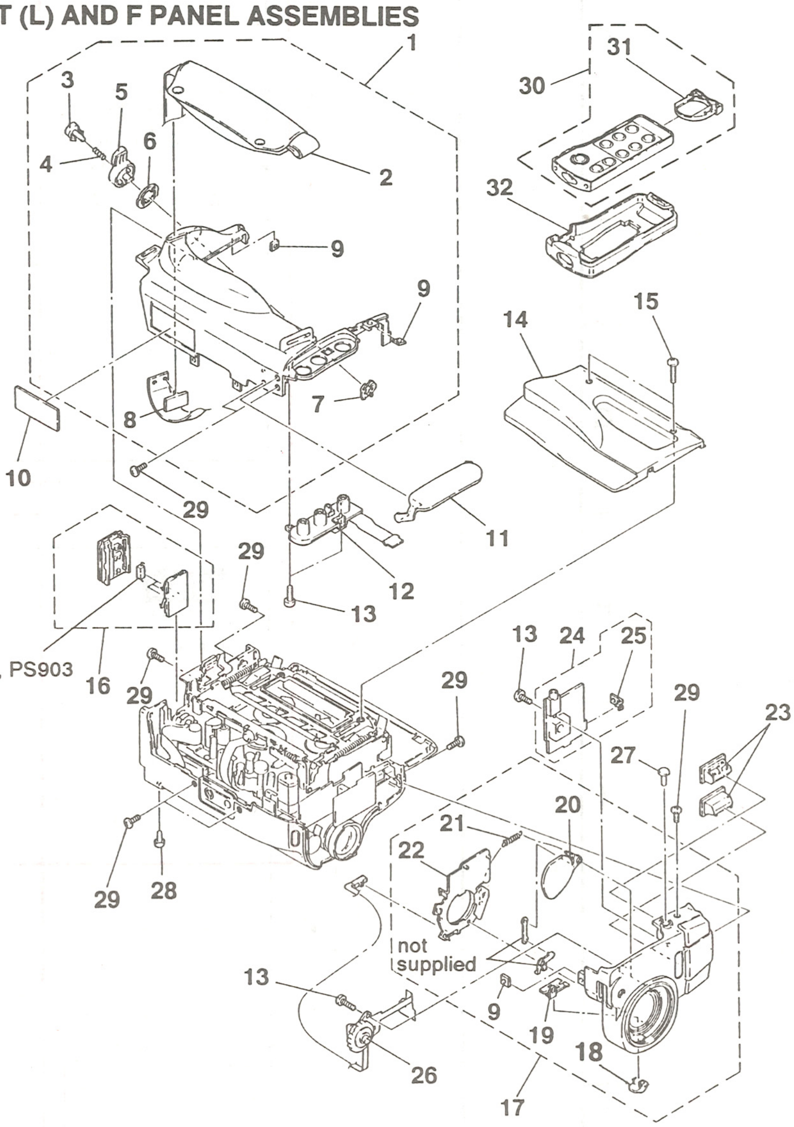
SECTION 5
EXPLODED VIEWS

NOTE:

- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list is given in the last of this parts list.

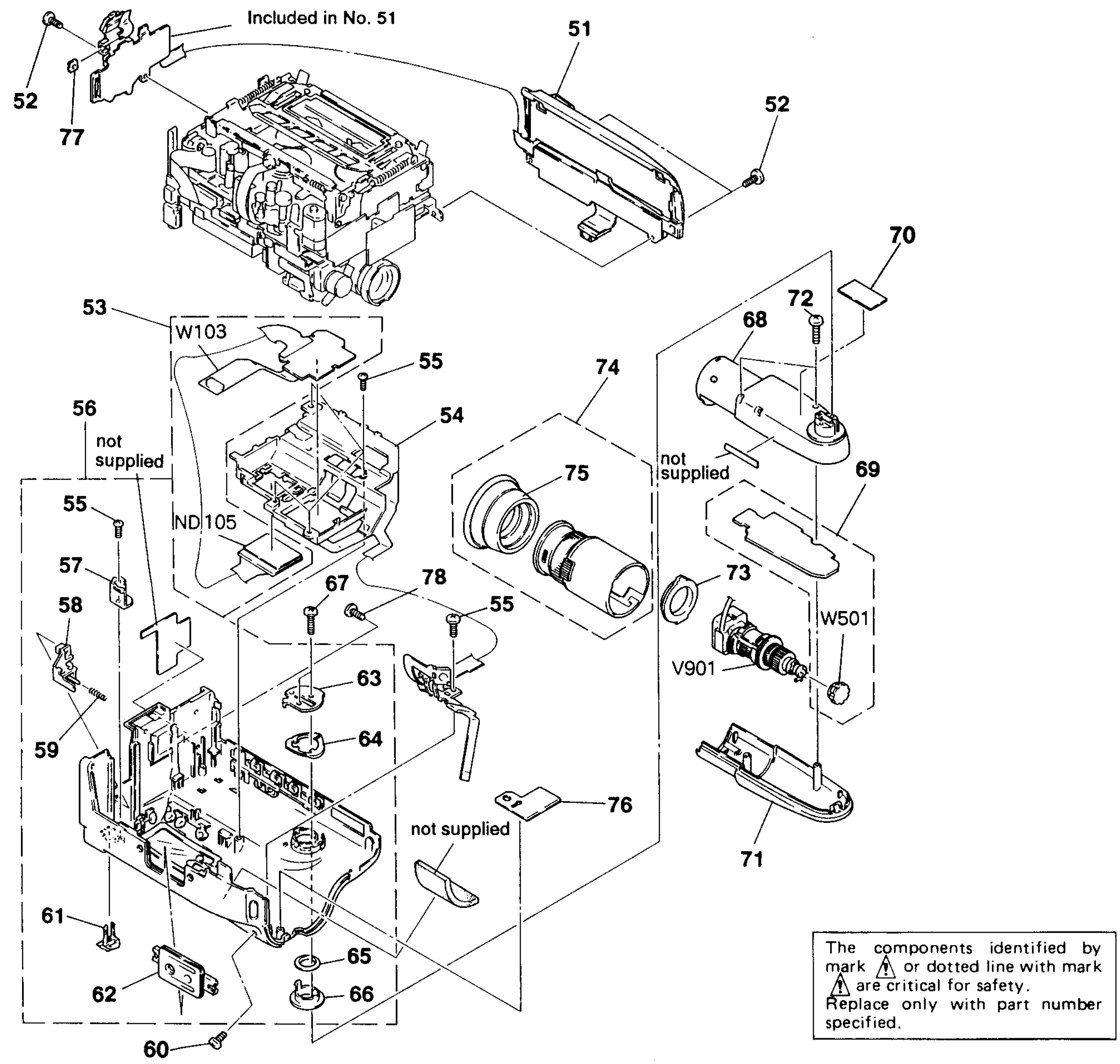
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

5-1. CABINET (L) AND F PANEL ASSEMBLIES



Ref. No.	Part No.	Description	Remark
1	X-3940-945-1	CABINET (L) ASSY (AEP(BLACK), UK)	
1	X-3941-036-1	CABINET (L) ASSY (E, Australian)	
1	X-3941-290-1	CABINET (L) ASSY (AEP (GRAY))	
2	3-736-807-01	BELT, GRIP	
3	3-942-950-01	BUTTON, S/S	
4	3-578-221-00	SPRING, COMPRESSION	
5	3-942-985-01	KNOB, STAND-BY	
6	3-736-364-01	SPRING	
7	3-942-894-01	HOLDER, STAND-BY KNOB	
8	3-942-895-01	STOPPER, BELT	
9	3-718-233-01	NUT, PLATE	
10	* 3-944-149-01	LABEL, MODEL NUMBER (AEP)	
10	* 3-944-761-01	LABEL, MODEL NUMBER(E) (UK, E, Australian)	
11	3-943-012-01	COVER, JACK	
12	1-537-369-11	TERMINAL BOARD (JK-3100) (E, Australian)	
12	1-537-369-21	TERMINAL BOARD (JK-3100) (AEP, UK)	
13	3-719-601-01	SCREW (B2X5), TAPPING	
14	X-3940-943-1	LID ASSY, CASSETTE (BLACK)	
14	X-3941-289-1	LID ASSY, CASSETTE (GRAY)	
15	3-727-902-11	SCREW (M1.4), SPECIAL	
16	1-537-368-21	TERMINAL BOARD (BATTERY)	
17	X-3940-861-1	PANEL ASSY, F (BLACK)	
17	X-3941-291-1	PANEL ASSY, F (GRAY)	
18	3-942-905-01	KNOB, S	
19	3-942-893-01	HOLDER, S KNOB	
20	3-942-885-01	COVER, L	
21	3-543-985-00	SPRING, TENSION	
22	3-942-913-01	RETAINER, L COVER	
23	A-7091-657-A	MICROHONE KIT	
24	A-7062-882-A	MA-111 BOARD, COMPLETE	
25	3-943-010-01	PLATE, GROUND, MICROPHONE	
26	1-466-556-11	SW BLOCK, CONTROL (MF-3100)	
27	3-728-267-01	COVER, 3.5 JACK	
28	3-728-266-01	COVER, 2.5 JACK	
29	3-719-381-01	SCREW (M2X4)	
30	1-465-807-91	REMOTE COMMANDER (CAM CORDER) (RMT-507)	
31	3-944-056-01	LID, BATTERY CASE, LITHIUM	
32	* 3-943-154-11	HOLDER, REMOTE CONTROL	
PS901	⚠ 1-532-841-41	LINK, IC	
PS902	⚠ 1-532-841-41	LINK, IC	
PS903	⚠ 1-532-841-41	LINK, IC	

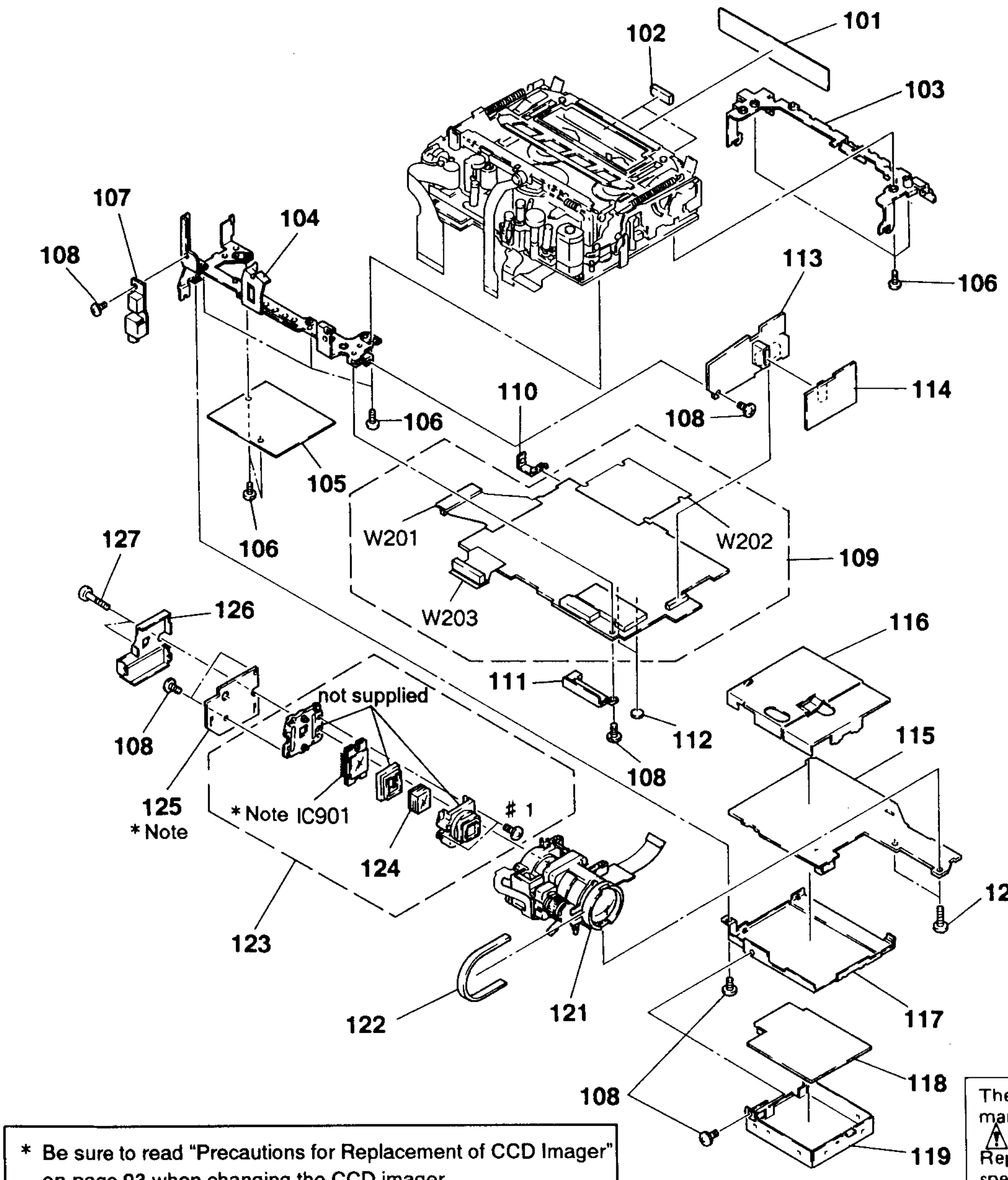
5-2. CABINET (R) ASSEMBLY



The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
51	1-466-554-21	SW BLOCK, CONTROL (FK-3100) (E, Australian)	
51	1-466-598-11	SW BLOCK, CONTROL (FK-3101) (AEP, UK)	
52	3-713-786-51	SCREW (M2X3)	
53	A-7062-881-A	LC-33 BOARD, COMPLETE	
54	1-466-555-11	SW BLOCK, CONTROL (CF-3100)	
55	3-719-601-01	SCREW (B2X5), TAPPING	
56	X-3940-944-1	CABINET (R) ASSY (AEP (BLACK), UK)	
56	X-3941-035-1	CABINET (R) ASSY (E, Australian)	
56	X-3941-293-1	CABINET (R) ASSY (AEP (GRAY))	
57	3-942-890-01	RETAINER, BATTERY LOCK	
58	3-943-065-01	LOCK, BATTERY	
59	3-426-508-00	SPRING, COMPRESSION	
60	3-719-408-01	SCREW (B2), TAPPING, P3	
61	3-943-068-01	KNOB, BATTERY	
62	3-942-911-01	SCREW, TRIPOD	
63	3-942-897-01	PALTE, LOCK, TILT	
64	3-747-110-01	SPRING, LEAF, TILT	
65	3-747-112-01	RING, TILT	
66	3-747-109-01	SLEEVE, EVF	
67	3-740-546-01	SCREW (M2X10)	
68	X-3940-706-1	CABINET (L) ASSY, EVF (BLACK)	
68	X-3941-292-1	CABINET (L) ASSY, EVF (GRAY)	
69	A-7062-880-A	VF-42P BOARD, COMPLETE	
70	* 3-704-235-01	LABEL, CAUTION (UK)	
71	3-943-077-01	CABINET (R), EVF (BLACK)	
71	3-943-077-81	CABINET (R), EVF (GRAY)	
72	3-713-790-31	SCREW (M2X8), TAPPING, P3	
73	3-747-116-01	COVER, CRT	
74	A-7081-678-A	HOLDER BLOCK ASSY, FINDER	
75	3-942-908-01	EYE CUP	
76	3-944-197-01	SHEET (R), INSULATING	
77	3-718-233-01	NUT, PLATE	
78	3-719-381-01	SCREW (M2X4)	
ND105	1-809-404-21	DISPLAY PANEL, LIQUID CRYSTAL	
V901	⚠1-452-565-11	CRT ASSY (M01KTA80WB)	
W103	1-639-746-11	FP-394 FLEXIBLE BOARD	
W501	⚠1-540-019-21	SOCKET ASSY, CRT	

5-3. MAIN BOARDS ASSEMBLY

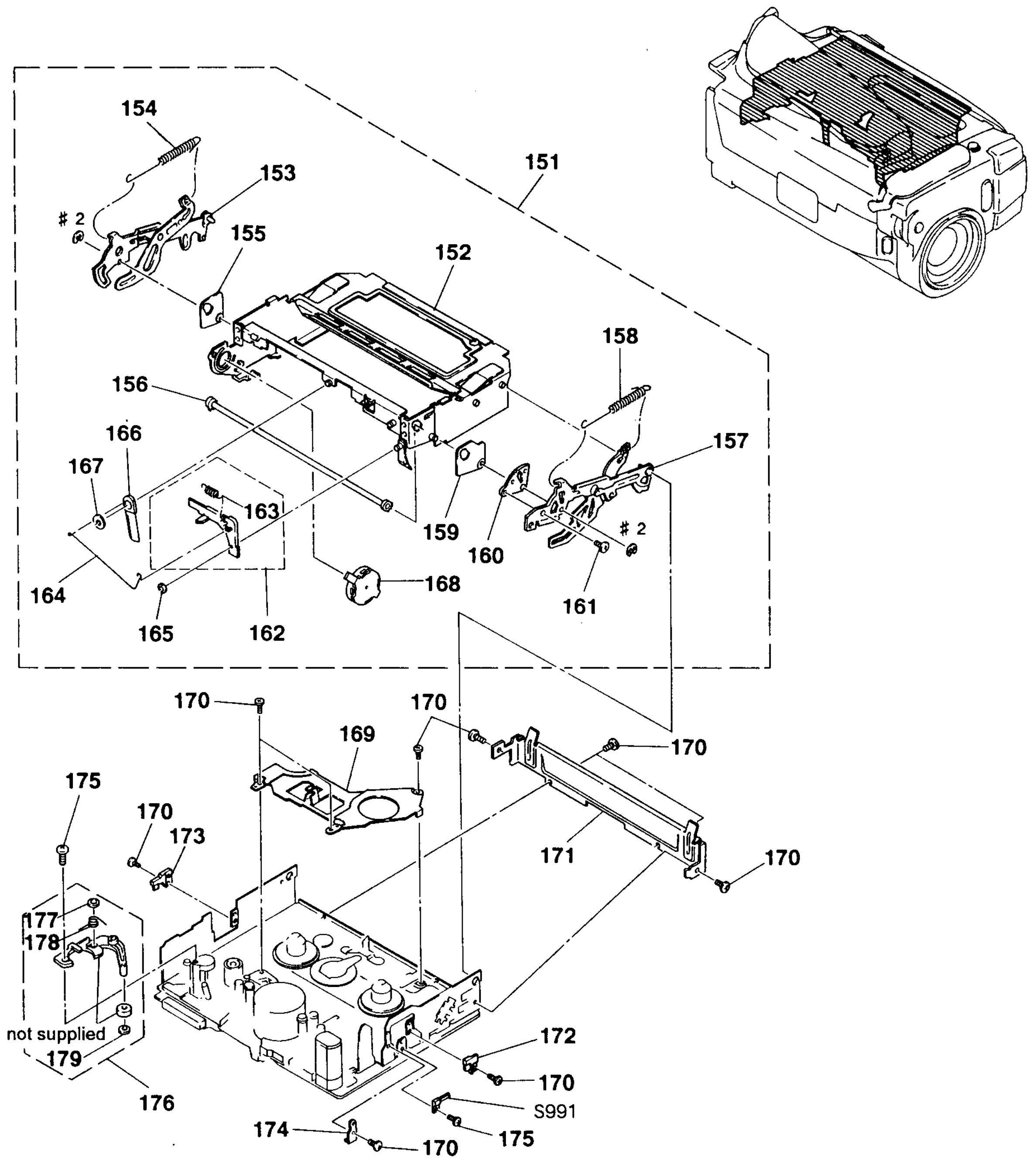


* Be sure to read "Precautions for Replacement of CCD Imager" on page 93 when changing the CCD imager.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
101	3-943-701-01	LABEL, CAUTION	
102	3-942-882-01	SPACER, FK	
103	3-942-920-01	FRAME (UPPER)	
104	3-942-921-01	FRAME (LOWER)	
105	3-943-959-01	SHEET, VM	
106	3-703-816-41	SCREW (M1.4X2.5), SPECIAL HEAD	
107	A-7071-464-A	LJ-4 BOARD, COMPLETE	
108	3-713-786-51	SCREW (M2X3)	
109	A-7062-875-A	VS-83 BOARD, COMPLETE (AEP,UK)	
109	A-7062-926-A	VS-83 BOARD, COMPLETE,(E,Australian)	
110	3-943-013-01	PLATE, GROUND, VS	
111	3-943-008-01	PLATE, SHIELD, RP CONNECTOR	
112	3-943-014-01	CUSHION, RUBBER	
113	A-7052-878-A	AU-119 BOARD, COMPLETE	
114	A-7052-879-A	AU-120 BOARD, COMPLETE	
115	A-7062-876-A	VC-104 BOARD, COMPLETE	
116	3-943-004-01	CASE (LOWER), SHIELD, VC	
117	X-3940-691-1	CASE (UPPER) ASSY, SHIELD, VC	
118	⚠ A-7062-874-A	DD-37 BOARD, COMPLETE (DC-DC CONVERTER UNIT)	
119	3-943-011-11	CASE (UPPER), SHIELD, DD	
120	3-719-601-01	SCREW (B2X5), TAPPING	
121	1-547-483-11	LENS, ZOOM (VCL-606WA) (TYPE CAN)	
121	1-547-484-11	LENS, ZOOM (VCL-606WB) (TYPE TAM)	
122	3-944-194-01	CUSHION, LENS	
123	A-7030-266-A	CCD ASSY	
124	1-547-491-11	FILTER BLOCK, OPTICAL (OFB-03-02)	
125	A-7062-877-A	CD-73 BOARD, COMPLETE	
126	3-944-414-01	SHEET, INSULATING, CCD HOLDER	
127	3-747-151-21	SCREW (2X12)	
IC901	8-752-607-39	IC ICX045BKA-2 (CCD IMAGER)	
W201	1-639-744-11	FP-391 FLEXIBLE BOARD	
W202	1-639-745-11	FP-392 FLEXIBLE BOARD	
W203	1-630-591-11	FP-182 FLEXIBLE BOARD	

5-4. CASSETTE COMPARTMENT HOLDER ASSEMBLY



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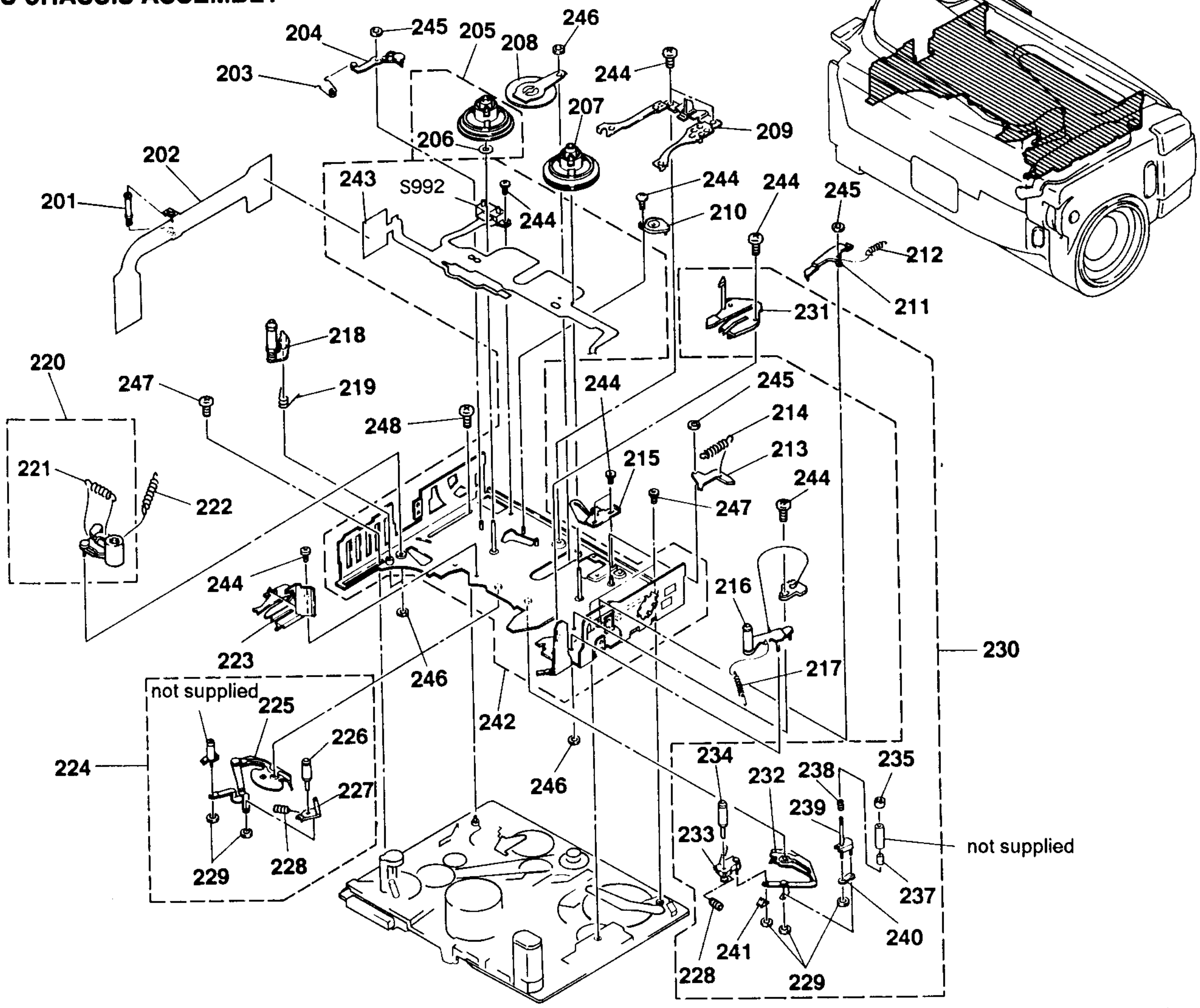
Ref. No.	Part No.	Description	Remark
151	A-7040-255-A	HOLDER BLOCK ASSY (L)	
152	X-3940-680-1	HOLDER ASSY (L)	
153	X-3940-677-1	ARM (T) ASSY (L), F	
154	3-739-872-01	SPRING, TENSION	
155	3-728-145-01	BEARING (T), MIDWAY GEAR	
156	X-3727-920-1	GEAR ASSY, MIDWAY	
157	X-3940-678-1	ARM (S) ASSY (L), F	
158	3-739-873-01	SPRING, TENSION	
159	3-728-146-01	BEARING (S), MIDWAY GEAR	
160	3-739-808-01	PLATE (2), ADJUSTMENT, C ARM	
161	3-728-126-01	SCREW (M1.4X2), SPECIAL HEAD	
162	A-7040-164-A	ARM BLOCK ASSY, TP	
163	3-509-127-00	SPRING, TENSION	
164	3-728-277-01	BAR, JOINT	
165	3-331-007-11	WASHER	
166	X-3940-991-1	PROTECTOR ASSY (2), T	
167	3-749-304-01	WASHER, STOPPER	
168	X-3739-809-1	DAMPER ASSY (2)	
169	3-942-924-01	BASE (L), LED	
170	3-728-103-11	SCREW (M1.4X1.6), SPECIAL HEAD	
171	3-943-055-01	FRAME (L), LS	
172	3-727-957-01	HOLDER (S), SENSOR	
173	3-727-954-01	HOLDER (T), SENSOR	
174	3-727-946-01	SUPPORT, LS	
175	3-728-148-11	SCREW (M1.4X2.5), SPECIAL HEAD	
176	A-7040-264-B	ROLLER BLOCK ASSY, HC	
177	3-943-533-01	WASHER, STOPPER	
178	3-943-439-01	SPRING, TORSION	
179	3-321-393-11	WASHER, STOPPER	
S991	1-572-611-11	SWITCH, LEAF (C LOCK)	

5-5. LS CHASSIS ASSEMBLY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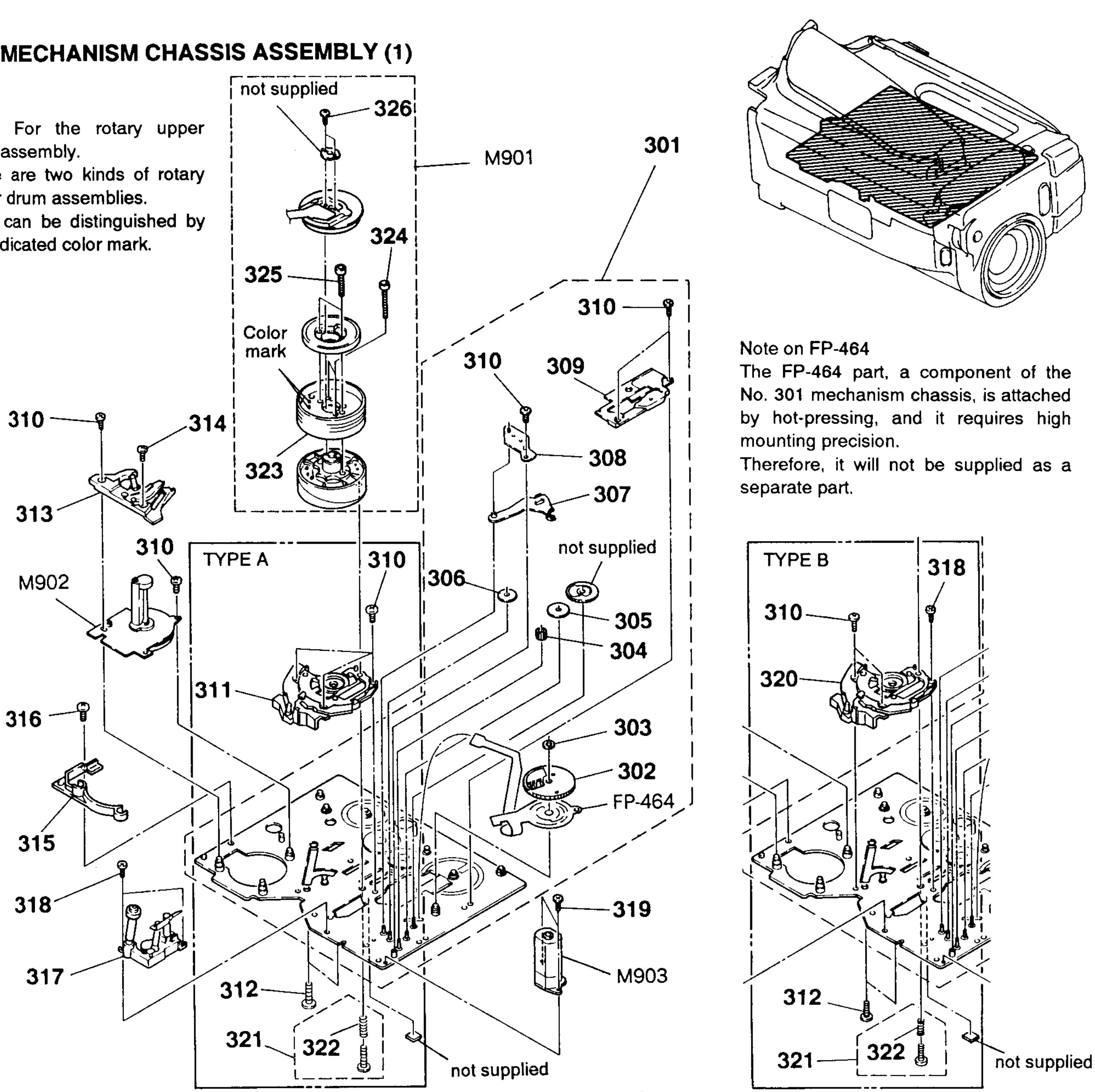
S992
not supplied
not supplied

Ref. No.	Part No.	Description	Remark
201	3-739-807-01	SHAFT (2), FLEXIBLE ROTARY	
202	1-627-722-11	FP-149 FLEXIBLE BOARD	
203	3-732-068-01	SPRING (JD), RATCHET	
204	X-3728-005-1	RATCHET ASSY (JD), T	
205	X-3727-951-2	TABLE ASSY, REEL, TAKE-UP	
206	3-701-439-11	WASHER	
207	X-3727-952-1	TABLE ASSY, REEL, SUPPLY	
208	X-3727-926-1	ARM ASSY, GEAR	
209	X-3940-675-1	BASE ASSY (L), RL	
210	X-3727-914-4	CLUTCH ASSY, ONEWAY	
211	3-732-077-01	RATCHET (JD), S	
212	3-732-076-01	SPRING (JD), TENSION	
213	3-732-079-01	ARM (JD), S SOFT	
214	3-732-078-01	SPRING (JD), TENSION	
215	3-728-206-01	PLATE, CAM, LS	
216	X-3749-001-1	ARM ASSY (JD), TG1	
217	3-940-616-03	SPRING (JD), TENSION	
218	A-7040-252-A	ARM BLOCK ASSY (L), TG11	
219	3-727-939-01	SPRING (JD), TORSION	
220	A-7040-240-A	ARM BLOCK ASSY (JD), PINCH	
221	3-727-927-01	SPRING (POWER TENSION), TENSION	
222	3-732-089-01	SPRING (JD), TENSION	
223	3-728-244-01	RAIL (T), GUIDE	
224	A-7040-148-A	ARM (T) BLOCK ASSY, GUIDE	

Ref. No.	Part No.	Description	Remark
225	X-3727-940-1	ARM (T) ASSY, GUIDE	
226	X-3727-994-1	ROLLER ASSY, TG8	
227	X-3727-947-1	BASE ASSY, TG7	
228	3-728-290-01	SCREW (M1.2)	
229	3-331-007-11	WASHER	
230	A-7040-263-A	RAIL(S)BLOCK ASSY(3)(JD),GUIDE	
231	3-728-226-01	RAIL (S) (JD), GUIDE	
232	X-3727-941-1	ARM (S) ASSY, GUIDE	
233	X-3727-948-1	BASE ASSY, TG6	
234	X-3940-733-1	ROLLER ASSY (3), TG5	
235	3-943-822-01	FLANGE (P), TG4 UPPER	
237	3-728-048-01	SLEEVE, TG4	
238	3-728-023-01	SPRING, COMPRESSION	
239	X-3727-936-2	BASE ASSY, TG4	
240	3-728-053-01	PLATE, UNDER, TG4	
241	3-728-062-01	SPRING (6GB), LEAF	
242	A-7010-369-A	MD ASSY (1)	
243	A-7061-238-B	FP-115 BOARD, COMPLETE	
244	3-728-103-11	SCREW (M1.4X1.6), SPECIAL HEAD	
245	3-728-091-01	WASHER, STOPPER	
246	3-315-414-31	WASHER	
247	3-941-601-01	SCREW (M1.4X2.5), SPECIAL HEAD	
248	3-732-085-01	SCREW (1.2X1.6), SPECIAL HEAD	
S992	1-571-647-11	SWITCH, PUSH (2 KEY) (REC PROOF, ME/MP)	

5-6. MECHANISM CHASSIS ASSEMBLY (1)

Note: For the rotary upper drum assembly.
There are two kinds of rotary upper drum assemblies.
They can be distinguished by the indicated color mark.


not supplied
326
M901
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Color mark
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TYPE A
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not supplied
M902
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FP-464
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M903
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TYPE B
318
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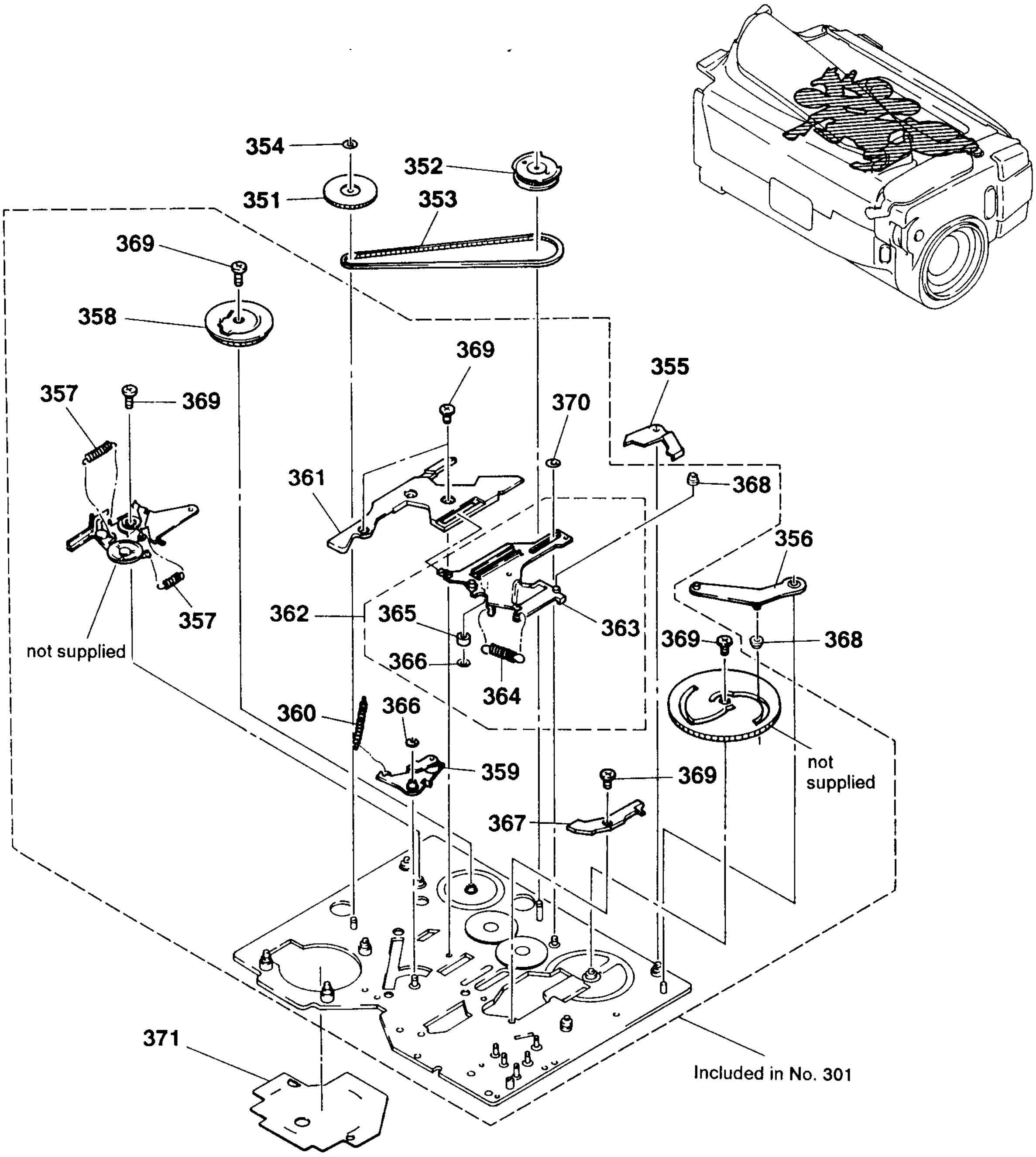
not supplied

Note on FP-464
The FP-464 part, a component of the No. 301 mechanism chassis, is attached by hot-pressing, and it requires high mounting precision.
Therefore, it will not be supplied as a separate part.

Ref. No.	Part No.	Description	Remark
301	A-7040-253-A	CHASSIS BLOCK ASST (L)	
302	X-3727-915-1	GEAR ASSY, MODE	
303	3-325-290-21	WASHER, STOPPER	
304	3-728-149-01	GEAR, NO. 0	
305	X-3727-904-1	GEAR ASSY, NO. 2	
306	X-3727-903-1	GEAR ASSY, NO. 1	
307	X-3727-906-1	ARM ASSY	
308	3-728-119-01	RETAINER, GEAR	
309	3-728-231-06	BASE, TG-1 CAM	
310	3-728-148-11	SCREW (M1. 4X2. 5), SPECIAL HEAD	
311	* A-7040-222-D	BASE (M) BLOCK ASSY, DRUM (TYPE A)	
312	3-728-108-01	SCREW (M1. 4X4. 5)	
313	X-3941-027-1	RAIL (BASE) (3) ASSY (2), GUIDE	
314	3-732-084-01	SCREW (M1. 4), SPECIAL HEAD	
315	3-732-064-01	COVER, ROTOR	
316	3-728-126-01	SCREW (M1. 4X2), SPECIAL HEAD	
317	A-7040-289-A	RAIL (BASE) (1) BLOCK ASSY (L)	
318	3-703-816-51	SCREW (M1. 4X3. 5), SPECIAL HEAD	
319	3-732-087-31	SCREW (M1. 4X1. 8), SPECIAL HEAD	
320	* A-7040-203-C	BASE (A) BLOCK ASSY, DRUM (TYPE B)	
321	X-3728-009-2	SCREW ASSY, FITTING	
322	3-743-633-01	SPRING, COMPRESSION	
323	A-7049-197-A	DRUM ASSY, UPPER, ROTARY (DGR-37-R-(1)) (COLOR MARK; GREEN, GREEN/RED, BLACK, BLACK/RED) (E, Australian)	
323	A-7049-198-A	DRUM ASSY, UPPER, ROTARY (DGR-37-R-(2)) (COLOR MARK; RED, RED/RED, BLUE, BLUE/RED) (E, Australian)	
323	A-7049-461-A	DRUM ASSY, UPPER, ROTARY (DGR-80-R-(1)) (COLOR MARK; GREEN, GREEN/RED, BLACK, BLACK/RED) (AEP, UK)	
323	A-7049-464-A	DRUM ASSY, UPPER, ROTARY (DGR-80-R-(2)) (COLOR MARK; RED, RED/RED, BLUE, BLUE/RED) (AEP, UK)	
324	3-727-809-01	SCREW (M1. 4X5), HEXAGONAL HOLE	
325	3-727-807-01	SCREW (M1. 7X3. 3), HEXAGONAL HOLE	
326	3-728-108-21	SCREW (M1. 4X2. 7)	
M901	A-7048-214-A	DRUM BLOCK ASSY (DGH-37A-R) (E, Australian)	
M901	A-7048-534-A	DRUM BLOCK ASSY (DGH-80A-R) (AEP, UK)	
M902	8-835-329-12	MOTOR, DC U-21A (CAPSTAN)	
M903	1-541-607-21	MOTOR, DC (LA12G-344VA) (LOADING)	

5-7. MECHANISM CHASSIS ASSEMBLY (2)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not supplied
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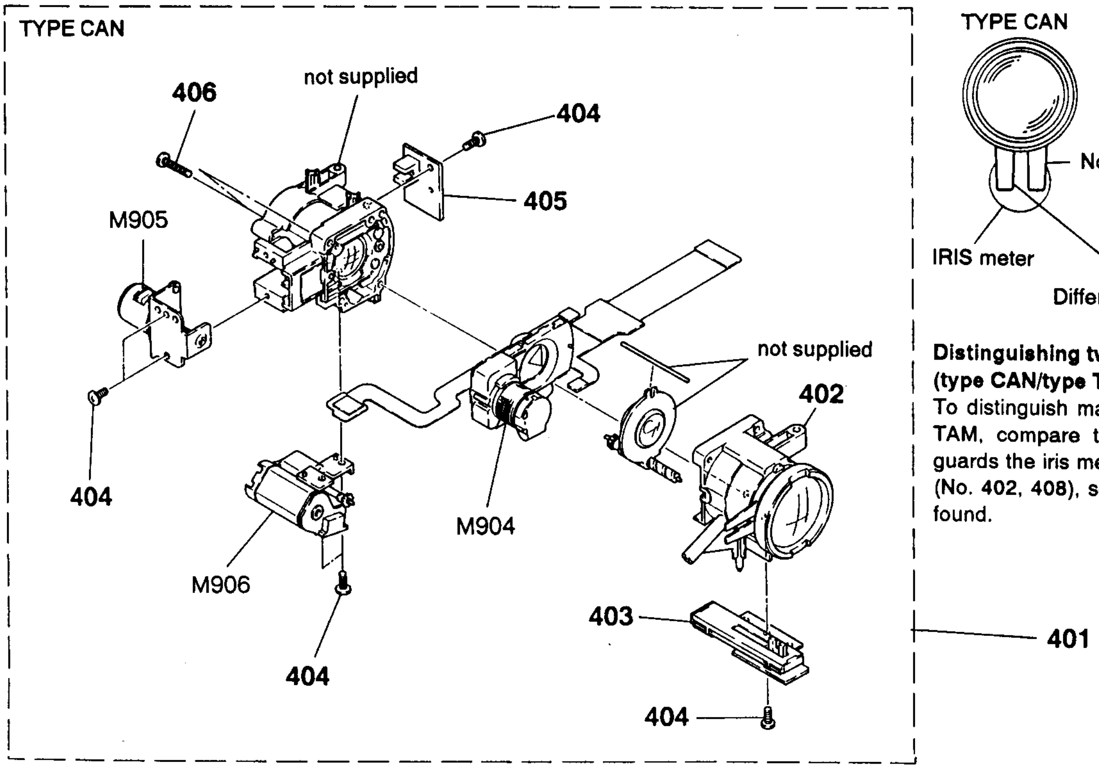
371
Included in No. 301

Ref. No.	Part No.	Description	Remark
351	X-3727-930-1	GEAR ASSY, CONVERSION	
352	X-3727-931-1	PULLEY ASSY, MIDWAY	
353	3-728-212-01	BELT, RELAY	
354	3-728-091-01	WASHER, STOPPER	
355	3-728-154-01	ARM, EJ	
356	3-941-980-01	ARM (T), LS	
357	3-728-065-01	SPRING, TENSION	
358	3-728-190-01	CAM (B)	
359	X-3727-924-2	ARM ASSY, GUIDE LOCK	
360	3-728-015-01	SPRING (POWER TENSION),TENSION	
361	3-728-228-03	SUPPORT (T), GL	
362	A-7040-153-A	SLIDER BLOCK ASSY, GL	
363	X-3727-942-1	SLIDER ASSY, GL	
364	3-727-929-01	SPRING (POWER TENSION),TENSION	
365	3-728-144-01	ROLLER, GL	
366	3-331-007-11	WASHER	
367	3-728-213-01	SUPPORT (S), GL	
368	3-728-109-01	ROLLER, LS	
369	3-728-148-11	SCREW (M1.4X2.5), SPECIAL HEAD	
370	3-315-384-31	WASHER, STOPPER	
371	3-942-901-01	COVER (L), CAPSTAN	

5-8. ZOOM LENS ASSEMBLIES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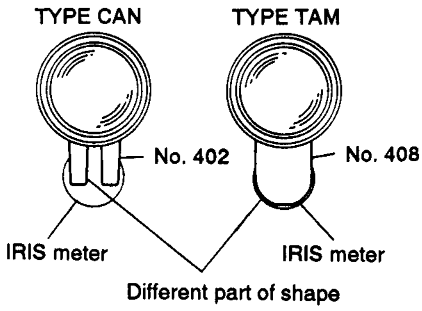
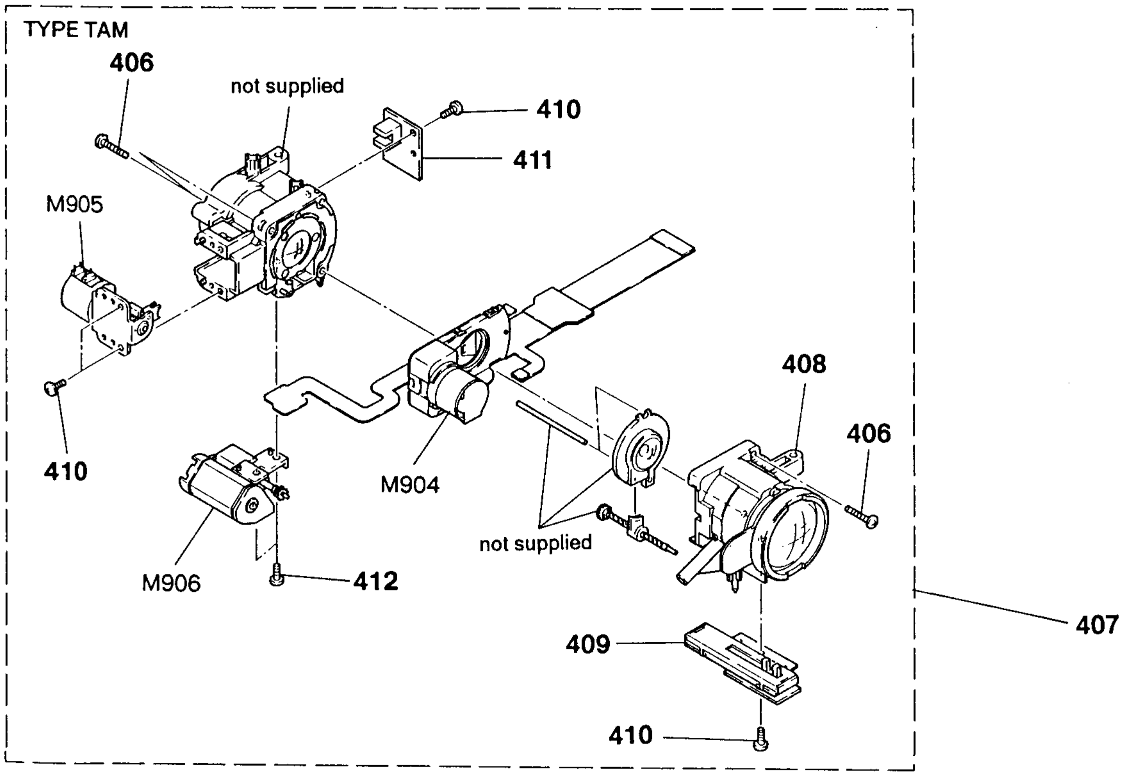
405
M905
not supplied
402
404
M904
M906
403
401
404
404


TYPE CAN
TYPE TAM
No. 402
No. 408
IRIS meter
IRIS meter
Different part of shape

Distinguishing two zoom lenses. (type CAN/type TAM)

To distinguish mainly type CAN from type TAM, compare the shape of part which guards the iris meter assembling front lens (No. 402, 408), so different shapes will be found.


TYPE TAM
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not supplied
410
411
M905
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M904
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M906
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Ref. No.	Part No.	Description	Remark
401	1-547-483-11	LENS, ZOOM (VCL-606WA) (TYPE CAN)	
402	3-708-318-01	LENS ASSY, FRONT (TYPE CAN)	
403	3-708-322-01	ENCORDER UNIT, Z (TYPE CAN)	
404	3-708-302-01	SCREW, FITTING M. E (TYPE CAN)	
405	3-708-319-01	SENSOR ASSY, RESET (TYPE CAN)	
406	3-707-992-01	SCREW, DOCKING	
407	1-547-484-11	LENS, ZOOM (VCL-606WB) (TYPE TAM)	
408	3-708-326-01	LENS ASSY, FRONT (TYPE TAM)	
409	3-708-329-01	ENCORDER UNIT, Z (TYPE TAM)	
410	3-707-665-01	SCREW, 3P 1.7X4C (TYPE TAM)	
411	3-708-331-01	SENSOR ASSY, RESET (TYPE TAM)	
412	3-707-666-01	SCREW, 3P 1.7X2.8C (TYPE TAM)	
M904	3-708-323-01	METER ASSY, IG (IRIS) (TYPE CAN)	
M904	3-708-327-01	METER ASSY, EE (IRIS) (TYPE TAM)	
M905	3-708-321-01	MOTOR ASSY, AF (FOCUS) (TYPE CAN)	
M905	3-708-330-01	MOTOR ASSY, AF (FOCUS) (TYPE TAM)	
M906	3-708-320-01	MOTOR ASSY, PZ (ZOOM) (TYPE CAN)	
M906	3-708-328-01	MOTOR ASSY, PZ (ZOOM) (TYPE TAM)	

AU-119

SECTION 6
ELECTRICAL PARTS LIST

NOTE:

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board name.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms
  METAL: Metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F : nonflammable
- Hardware (# mark) list is given in the last of this parts list.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u: μ , for example:
  uA...: μA..., uPA...: μPA...,
  uPB...: μPB..., uPC...: μPC...,
  uPD...: μPD...
- CAPACITORS
  uF : μF
- COILS
  uH : μH

Ref. No.	Part No.	Description			Remark
*	A-7052-878-A	AU-119 BOARD, COMPLETE ************************ (Ref. No 4,000 Series)			
	1-573-292-11	CONNECTOR, BOARD TO BOARD 22P			
		< CAPACITOR >			
C601	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C602	1-135-161-21	TANTALUM CHIP	22uF	10%	10V
C603	1-135-161-21	TANTALUM CHIP	22uF	10%	10V
C604	1-162-957-11	CERAMIC CHIP	220PF	5%	50V
C605	1-162-957-11	CERAMIC CHIP	220PF	5%	50V
C606	1-162-957-11	CERAMIC CHIP	220PF	5%	50V
C607	1-164-633-11	CERAMIC CHIP	0.1uF	10%	25V
C608	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C609	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C610	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V
C611	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V
C612	1-162-957-11	CERAMIC CHIP	220PF	5%	50V
C613	1-164-633-11	CERAMIC CHIP	0.1uF	10%	25V
C614	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C615	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C616	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V
C617	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V
C618	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C619	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C620	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C621	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C622	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C623	1-135-163-21	TANTAL. CHIP	47uF	20%	4V
C624	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C625	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C626	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C627	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V

Ref. No.	Part No.	Description			Remark
C628	1-135-166-21	TANTALUM CHIP	47uF	10%	10V
C629	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C630	1-135-163-21	TANTAL. CHIP	47uF	20%	4V
C631	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C632	1-164-634-11	CERAMIC CHIP	1uF		16V
C633	1-164-634-11	CERAMIC CHIP	1uF		16V
C634	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C635	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C636	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C637	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C638	1-164-172-11	CERAMIC CHIP	0.0056uF	5%	25V
C639	1-164-172-11	CERAMIC CHIP	0.0056uF	5%	25V
C640	1-162-949-11	CERAMIC CHIP	47PF	5%	50V
C641	1-162-949-11	CERAMIC CHIP	47PF	5%	50V
C642	1-162-957-11	CERAMIC CHIP	220PF	5%	50V
C643	1-162-957-11	CERAMIC CHIP	220PF	5%	50V
C644	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C645	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C646	1-135-091-00	TANTALUM CHIP	1uF	20%	16V
C647	1-135-091-00	TANTALUM CHIP	1uF	20%	16V
C648	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C649	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C650	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V
C651	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V
C652	1-126-205-11	ELECT CHIP	47uF	20%	6.3V
C653	1-162-977-11	CERAMIC CHIP	0.0018uF	10%	50V
C654	1-135-166-21	TANTALUM CHIP	47uF	10%	10V
C655	1-162-977-11	CERAMIC CHIP	0.0018uF	10%	50V
C656	1-164-634-11	CERAMIC CHIP	1uF		16V
C657	1-164-634-11	CERAMIC CHIP	1uF		16V
C658	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C659	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C660	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V

Ref. No.	Part No.	Description			Remark
C661	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C662	1-135-162-21	TANTALUM CHIP	33uF	20%	6.3V
C684	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C686	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C687	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C693	1-164-360-11	CERAMIC CHIP	0.1uF		16V
		< CONNECTOR >			
CN601	1-569-775-21	PIN, CONNECTOR 5P			
CN602	1-573-311-21	CONNECTOR, BOARD TO BOARD 22P			
CN603	1-573-343-21	CONNECTOR, BOARD TO BOARD 30P			
		< DIODE >			
D601	8-719-420-14	DIODE	MA8082-L/M/H-TX		
		< IC >			
IC601	8-759-823-19	IC	CXA1488RR		
IC602	8-759-823-19	IC	CXA1488RR		
IC603	8-759-509-05	IC	XRU4066BF		
		< COIL >			
L601	1-412-029-11	INDUCTOR CHIP	10uH		
		< TRANSISTOR >			
Q603	8-729-429-18	TRANSISTOR	UN9213		
Q606	8-729-927-62	TRANSISTOR	UMX1		
		< RESISTOR >			
R601	1-216-833-11	METAL CHIP	10K	5%	1/16W
R602	1-216-837-11	METAL CHIP	22K	5%	1/16W
R603	1-216-833-11	METAL CHIP	10K	5%	1/16W
R604	1-216-837-11	METAL CHIP	22K	5%	1/16W
R605	1-216-859-11	METAL GLAZE	1.5M	5%	1/16W
R606	1-216-838-11	METAL CHIP	27K	5%	1/16W
R607	1-216-859-11	METAL GLAZE	1.5M	5%	1/16W
R610	1-216-840-11	METAL CHIP	39K	5%	1/16W
R611	1-216-840-11	METAL CHIP	39K	5%	1/16W
R612	1-216-835-11	METAL CHIP	15K	5%	1/16W
R613	1-216-835-11	METAL CHIP	15K	5%	1/16W
R614	1-216-845-11	METAL CHIP	100K	5%	1/16W
R615	1-216-845-11	METAL CHIP	100K	5%	1/16W
R616	1-216-821-11	METAL CHIP	1K	5%	1/16W
R617	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
R618	1-216-821-11	METAL CHIP	1K	5%	1/16W
R619	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
R621	1-216-839-11	METAL CHIP	33K	5%	1/16W
R622	1-216-839-11	METAL CHIP	33K	5%	1/16W
R623	1-216-821-11	METAL CHIP	1K	5%	1/16W
R624	1-216-821-11	METAL CHIP	1K	5%	1/16W
R625	1-216-833-11	METAL CHIP	10K	5%	1/16W
R626	1-216-833-11	METAL CHIP	10K	5%	1/16W
R627	1-216-845-11	METAL CHIP	100K	5%	1/16W
R628	1-216-813-11	METAL CHIP	220	5%	1/16W
R629	1-216-817-11	METAL CHIP	470	5%	1/16W
R630	1-216-819-11	METAL CHIP	680	5%	1/16W
R631	1-216-821-11	METAL CHIP	1K	5%	1/16W
R632	1-216-821-11	METAL CHIP	1K	5%	1/16W
R634	1-216-836-11	METAL CHIP	18K	5%	1/16W
R635	1-218-706-11	METAL CHIP	3.9K	0.50%	1/16W
R636	1-216-836-11	METAL CHIP	18K	5%	1/16W
R643	1-216-837-11	METAL CHIP	22K	5%	1/16W
R644	1-216-836-11	METAL CHIP	18K	5%	1/16W
R650	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R651	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R652	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R660	1-216-849-11	METAL CHIP	220K	5%	1/16W
R661	1-216-851-11	METAL CHIP	330K	5%	1/16W
R663	1-216-849-11	METAL CHIP	220K	5%	1/16W
R664	1-216-801-11	METAL CHIP	22	5%	1/16W
R667	1-216-851-11	METAL CHIP	330K	5%	1/16W

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* A-7052-879-A AU-120 BOARD, COMPLETE
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(Ref.No 4,000 Series)

Ref. No.	Part No.	Description			Remark
		< CAPACITOR >			
C663	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C664	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C665	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C666	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C667	1-164-634-11	CERAMIC CHIP	1uF		16V
C668	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C669	1-126-607-11	ELECT CHIP	47uF	20%	4V
C670	1-135-163-21	TANTAL. CHIP	47uF	20%	4V
C671	1-164-634-11	CERAMIC CHIP	1uF		16V
C672	1-135-202-21	TANTAL. CHIP	22uF	20%	4V
C673	1-135-202-21	TANTAL. CHIP	22uF	20%	4V
C676	1-164-634-11	CERAMIC CHIP	1uF		16V
C677	1-164-634-11	CERAMIC CHIP	1uF		16V
C678	1-164-634-11	CERAMIC CHIP	1uF		16V
C679	1-164-634-11	CERAMIC CHIP	1uF		16V
C680	1-135-202-21	TANTAL. CHIP	22uF	20%	4V
C681	1-135-202-21	TANTAL. CHIP	22uF	20%	4V
C682	1-162-952-11	CERAMIC CHIP	82PF	5%	50V
C683	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C685	1-164-360-11	CERAMIC CHIP	0.1uF		16V

Ref. No.	Part No.	Description			Remark
C688	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C689	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C691	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C692	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C695	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C696	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V
C697	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
		< CONNECTOR >			
CN604	1-573-311-21	CONNECTOR, BOARD TO BOARD 22P			
		< FILTER >			
FL601	1-236-837-21	FILTER, BAND PASS			
FL602	1-236-838-21	FILTER, BAND PASS			
		< IC >			
IC605	8-759-823-21	IC CXA1536QQ			
		< TRANSISTOR >			
Q602	8-729-928-19	TRANSISTOR 2SA1774			
Q604	8-729-927-62	TRANSISTOR UMX1			
Q605	8-729-927-62	TRANSISTOR UMX1			
Q607	8-729-425-64	TRANSISTOR 2SD2216QR			
		< RESISTOR >			
R633	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R637	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R638	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R639	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R640	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R641	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R642	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R645	1-216-837-11	METAL CHIP	22K	5%	1/16W
R646	1-216-836-11	METAL CHIP	18K	5%	1/16W
R647	1-216-837-11	METAL CHIP	22K	5%	1/16W
R648	1-216-836-11	METAL CHIP	18K	5%	1/16W
R653	1-216-821-11	METAL CHIP	1K	5%	1/16W
R654	1-216-821-11	METAL CHIP	1K	5%	1/16W
R655	1-216-821-11	METAL CHIP	1K	5%	1/16W
R656	1-216-821-11	METAL CHIP	1K	5%	1/16W
R657	1-216-815-11	METAL CHIP	330	5%	1/16W
R658	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R666	1-216-845-11	METAL CHIP	100K	5%	1/16W

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* A-7062-877-A CD-73 BOARD, COMPLETE

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(Ref.No 1,000 Series)

Ref. No.	Part No.	Description			Remark
		< CAPACITOR >			
C901	1-135-214-21	TANTAL. CHIP	4.7uF	20%	20V
C902	1-128-013-11	ELECT CHIP	1uF	20%	50V
C903	1-128-008-11	ELECT CHIP	3.3uF	20%	35V
C904	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C905	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C906	1-126-607-11	ELECT CHIP	47uF	20%	4V
C907	1-128-004-11	ELECT CHIP	10uF	20%	16V
C908	1-135-091-00	TANTALUM CHIP	1uF	20%	16V
C909	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C910	1-164-156-11	CERAMIC CHIP	0.1uF		25V
		< CONNECTOR >			
CN901	1-573-523-21	CONNECTOR, BOARD TO BOARD 16P			
		< DIODE >			
D901	8-719-800-76	DIODE 1SS226			
D902	8-719-404-46	DIODE MA110			
D902	8-719-976-31	DIODE 1SS332			
D903	8-719-820-05	DIODE 1SS181			
D904	8-719-404-46	DIODE MA110			
D904	8-719-976-31	DIODE 1SS332			
		< COIL >			
L901	1-412-064-11	INDUCTOR CHIP	100uH		
		< TRANSISTOR >			
Q901	8-729-425-64	TRANSISTOR 2SD2216QR			
Q902	8-729-927-68	TRANSISTOR UMW1-TR			
Q903	8-729-232-86	TRANSISTOR 2SK1875-BL/V-TE85L			
		< RESISTOR >			
R901	1-216-845-11	METAL CHIP	100K	5%	1/16W
R902	1-216-857-11	METAL CHIP	1M	5%	1/16W
R903	1-216-819-11	METAL CHIP	680	5%	1/16W
R904	1-216-843-11	METAL CHIP	68K	5%	1/16W
R905	1-216-849-11	METAL CHIP	220K	5%	1/16W
R906	1-216-839-11	METAL CHIP	33K	5%	1/16W
R907	1-216-835-11	METAL CHIP	15K	5%	1/16W
R908	1-216-850-11	METAL CHIP	270K	5%	1/16W
R909	1-216-833-11	METAL CHIP	10K	5%	1/16W
R910	1-216-809-11	METAL CHIP	100	5%	1/16W
R911	1-216-828-11	METAL CHIP	3.9K	5%	1/16W

* A-7062-874-A DD-37 BOARD, COMPLETE
****
(Ref.No 8,000 Series)

< CAPACITOR >

Ref.No.	Part No.	Description				Remark
C921	1-164-360-11	CERAMIC CHIP	0.1uF		16V	
C922	1-162-960-11	CERAMIC CHIP	220PF	10%	50V	
C923	1-135-215-21	TANTAL. CHIP	6.8uF	20%	16V	
C924	1-164-836-11	CERAMIC CHIP	6.8uF		16V	
C925	1-164-836-11	CERAMIC CHIP	6.8uF		16V	
C926	1-135-157-21	TANTALUM CHIP	10uF	20%	6.3V	
C927	1-162-960-11	CERAMIC CHIP	220PF	10%	50V	
C928	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	
C929	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V	
C930	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	
C931	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	
C932	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V	
C933	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V	
C934	1-135-177-21	TANTALUM CHIP	1uF	20%	20V	
C935	1-135-177-21	TANTALUM CHIP	1uF	20%	20V	
C936	1-135-091-00	TANTALUM CHIP	1uF	20%	16V	
C937	1-135-091-00	TANTALUM CHIP	1uF	20%	16V	
C938	1-164-218-11	CERAMIC CHIP	180PF	0.25PF	50V	
C939	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V	
C940	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V	
C941	1-164-633-11	CERAMIC CHIP	0.1uF	10%	25V	
C942	1-164-836-11	CERAMIC CHIP	6.8uF		16V	
C943	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	
C944	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C945	1-162-949-11	CERAMIC CHIP	47PF	5%	50V	
C946	1-162-960-11	CERAMIC CHIP	220PF	10%	50V	
C947	1-162-953-11	CERAMIC CHIP	100PF	5%	50V	
C948	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V	
C949	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	
C950	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V	
C951	1-162-947-11	CERAMIC CHIP	33PF	5%	50V	
C952	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V	
C953	1-164-836-11	CERAMIC CHIP	6.8uF		16V	
C954	1-135-215-21	TANTAL. CHIP	6.8uF	20%	16V	
C955	1-164-836-11	CERAMIC CHIP	6.8uF		16V	
C956	1-164-836-11	CERAMIC CHIP	6.8uF		16V	
C957	1-135-157-21	TANTALUM CHIP	10uF	20%	6.3V	
C958	1-135-157-21	TANTALUM CHIP	10uF	20%	6.3V	
C959	1-164-360-11	CERAMIC CHIP	0.1uF		16V	
C960	1-162-960-11	CERAMIC CHIP	220PF	10%	50V	
C961	1-162-960-11	CERAMIC CHIP	220PF	10%	50V	
C962	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V	
C963	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V	
C964	1-164-836-11	CERAMIC CHIP	6.8uF		16V	
C965	1-135-157-21	TANTALUM CHIP	10uF	20%	6.3V	
C966	1-135-157-21	TANTALUM CHIP	10uF	20%	6.3V	
C967	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	
C968	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	
C969	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V	
C970	1-135-160-21	TANTAL. CHIP	15uF	20%	16V	
C971	1-164-836-11	CERAMIC CHIP	6.8uF		16V	
C972	1-164-836-11	CERAMIC CHIP	6.8uF		16V	
C973	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V	
C974	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V	
C975	1-164-836-11	CERAMIC CHIP	6.8uF		16V	
C976	1-164-633-11	CERAMIC CHIP	0.1uF	10%	25V	
C977	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C978	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	
C979	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	
C980	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	
C981	1-162-947-11	CERAMIC CHIP	33PF	5%	50V	
C982	1-135-091-00	TANTALUM CHIP	1uF	20%	16V	
C983	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V	
C984	1-162-638-11	CERAMIC CHIP	1uF		16V	
C985	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V	
C986	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C987	1-135-160-21	TANTAL. CHIP	15uF	20%	16V	

< CONNECTOR >

Ref.No.	Part No.	Description
CN921	1-569-775-21	PIN, CONNECTOR 5P
CN922	1-573-344-21	CONNECTOR, BOARD TO BOARD 48P

< DIODE >

Ref.No.	Part No.	Description	
D922	8-719-981-59	DIODE	FC805
D928	8-719-404-46	DIODE	MA110

< IC >

Ref.No.	Part No.	Description	
IC921	8-759-500-42	IC	MB3783PFV
IC922	8-759-500-42	IC	MB3783PFV

< COIL >

Ref.No.	Part No.	Description	
L921	1-424-521-21	COIL, CHOKE	1uH
L922	1-424-521-21	COIL, CHOKE	1uH
L923	1-424-521-21	COIL, CHOKE	1uH
L924	1-424-521-21	COIL, CHOKE	1uH
L925	1-424-522-21	COIL, CHOKE	10uH
L926	1-424-524-21	COIL, CHOKE	47uH
L927	1-412-029-11	INDUCTOR CHIP	10uH
L928	1-412-034-21	INDUCTOR CHIP	330uH
L929	1-412-034-21	INDUCTOR CHIP	330uH
L930	1-424-524-21	COIL, CHOKE	47uH

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Ref. No.	Part No.	Description	Remark
L931	1-412-028-11	INDUCTOR CHIP 4.7uH	
L932	1-424-524-21	COIL, CHOKE 47uH	
L933	1-412-029-11	INDUCTOR CHIP 10uH	
L934	1-424-522-21	COIL, CHOKE 10uH	
L935	1-424-524-21	COIL, CHOKE 47uH	
L936	1-412-029-11	INDUCTOR CHIP 10uH	
L937	1-412-028-11	INDUCTOR CHIP 4.7uH	
L938	1-424-524-21	COIL, CHOKE 47uH	
L939	1-412-028-11	INDUCTOR CHIP 4.7uH	
L940	1-424-522-21	COIL, CHOKE 10uH	
L941	1-424-523-21	COIL, CHOKE 22uH	
L942	1-424-524-21	COIL, CHOKE 47uH	
L943	1-412-029-11	INDUCTOR CHIP 10uH	

< TRANSISTOR >

Ref. No.	Part No.	Description	Remark
Q921	8-729-823-82	TRANSISTOR FP101	
Q922	8-729-928-27	TRANSISTOR DTA144EE	
Q923	8-729-822-82	TRANSISTOR 2SK1311	
Q924	8-729-823-84	TRANSISTOR FP102	
Q925	8-729-425-64	TRANSISTOR 2SD2216QR	
Q926	8-729-425-64	TRANSISTOR 2SD2216QR	
Q927	8-729-823-82	TRANSISTOR FP101	
Q928	8-729-823-84	TRANSISTOR FP102	
Q929	8-729-823-84	TRANSISTOR FP102	
Q930	8-729-823-82	TRANSISTOR FP101	
Q931	8-729-805-25	TRANSISTOR 2SB1121	
Q932	8-729-928-81	TRANSISTOR DTC144EE	
Q933	8-729-928-19	TRANSISTOR 2SA1774	
Q934	8-729-425-64	TRANSISTOR 2SD2216QR	

< RESISTOR >

Ref. No.	Part No.	Description	Remark
R922	1-216-842-11	METAL CHIP 56K 5% 1/16W	
R923	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R924	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R925	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R926	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R927	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	
R928	1-216-841-11	METAL CHIP 47K 5% 1/16W	
R929	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
R930	1-216-828-11	METAL CHIP 3.9K 5% 1/16W	
R931	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R932	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R933	1-216-811-11	METAL CHIP 150 5% 1/16W	
R934	1-216-841-11	METAL CHIP 47K 5% 1/16W	
R935	1-216-832-11	METAL CHIP 8.2K 5% 1/16W	
R936	1-216-842-11	METAL CHIP 56K 5% 1/16W	
R937	1-216-811-11	METAL CHIP 150 5% 1/16W	
R938	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R939	1-216-815-11	METAL CHIP 330 5% 1/16W	
R940	1-216-841-11	METAL CHIP 47K 5% 1/16W	
R941	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R941	1-218-871-11	METAL CHIP 10K 0.50% 1/16W	
R942	1-216-826-11	METAL CHIP 2.7K 5% 1/16W	
R943	1-218-704-11	METAL CHIP 3.3K 0.50% 1/16W	
R944	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	
R945	1-216-837-11	METAL CHIP 22K 5% 1/16W	
R946	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R947	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R948	1-216-840-11	METAL CHIP 39K 5% 1/16W	
R949	1-216-864-11	METAL CHIP 0 5% 1/16W	
R950	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
R951	1-216-838-11	METAL CHIP 27K 5% 1/16W	
R952	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	
R953	1-216-847-11	METAL CHIP 150K 5% 1/16W	
R954	1-216-837-11	METAL CHIP 22K 5% 1/16W	
R955	1-216-838-11	METAL CHIP 27K 5% 1/16W	
R956	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
R957	1-216-837-11	METAL CHIP 22K 5% 1/16W	
R958	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R959	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R960	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R961	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R962	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
R963	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
R964	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R965	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R966	1-216-811-11	METAL CHIP 150 5% 1/16W	
R967	1-216-811-11	METAL CHIP 150 5% 1/16W	
R968	1-216-811-11	METAL CHIP 150 5% 1/16W	
R969	1-218-706-11	METAL CHIP 3.9K 0.50% 1/16W	
R970	1-216-822-11	METAL CHIP 1.2K 5% 1/16W	
R971	1-216-826-11	METAL CHIP 2.7K 5% 1/16W	
R972	1-216-839-11	METAL CHIP 33K 5% 1/16W	
R973	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	
R974	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R975	1-216-864-11	METAL CHIP 0 5% 1/16W	
R976	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R977	1-216-840-11	METAL CHIP 39K 5% 1/16W	
R978	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R979	1-218-855-11	METAL CHIP 2.2K 0.50% 1/16W	
R980	1-216-822-11	METAL CHIP 1.2K 5% 1/16W	
R981	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R982	1-218-706-11	METAL CHIP 3.9K 0.50% 1/16W	
R983	1-216-832-11	METAL CHIP 8.2K 5% 1/16W	
R984	1-216-819-11	METAL CHIP 680 5% 1/16W	
R985	1-216-801-11	METAL CHIP 22 5% 1/16W	
R986	1-216-817-11	METAL CHIP 470 5% 1/16W	

Ref. No.	Part No.	Description	Remark
R987	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R988	1-216-845-11	METAL CHIP 100K 5% 1/16W	
		< VARIABLE RESISTOR >	
RV922	1-238-854-11	RES, ADJ, CERMET 2.2K	
RV923	1-238-853-11	RES, ADJ, CERMET 1K	
		< TRANSFORMER >	
T921	1-450-566-11	TRANSFORMER, CONVERTER	

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Ref. No.	Part No.	Description	Remark
	* A-7061-238-A	FP-115 BOARD, COMPLETE	
		**********************	
		(Ref. No 7,000 Series)	
	3-727-954-01	HOLDER (T), SENSOR	
	3-727-957-01	HOLDER (S), SENSOR	
	3-732-046-01	HOLDER, LED	
		< DIODE >	
D991	8-719-951-03	DIODE GL-453	
		< HALL ELEMENT >	
H991	1-808-448-11	ELEMENT, HALL (CHIP TYPE)	
H992	1-808-448-11	ELEMENT, HALL (CHIP TYPE)	
		< TRANSISTOR >	
Q991	8-729-907-25	TRANSISTOR PT4850F	
Q992	8-729-907-25	TRANSISTOR PT4850F	
		< RESISTOR >	
R991	1-216-817-11	METAL CHIP 470 5% 1/16W	
		< SWITCH >	
S991	1-572-611-11	SWITCH, LEAF	
S992	1-571-647-11	SWITCH, PUSH (2 KEY)	

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Ref. No.	Part No.	Description	Remark
	* A-7062-881-A	LC-33 BOARD, COMPLETE	
		*********************	
		(Ref. No 3,000 Series)	
		< CAPACITOR >	
C241	1-162-974-11	CERAMIC CHIP 0.01uF 50V	
C242	1-162-918-11	CERAMIC CHIP 18PF 5% 50V	
C243	1-162-921-11	CERAMIC CHIP 33PF 5% 50V	
C244	1-164-160-11	CERAMIC CHIP 20PF 10% 50V	
C245	1-162-915-11	CERAMIC CHIP 10PF 0.5PF 50V	
C246	1-164-360-11	CERAMIC CHIP 0.1uF 16V	
C247	1-135-259-11	TANTAL. CHIP 10uF 20% 6.3V	
C248	1-162-970-11	CERAMIC CHIP 0.01uF 10% 25V	
C250	1-135-259-11	TANTAL. CHIP 10uF 20% 6.3V	
C251	1-164-360-11	CERAMIC CHIP 0.1uF 16V	
		< CONNECTOR >	
CN104	1-573-363-21	CONNECTOR, FFC/FPC 23P	
		< IC >	
IC251	8-759-045-35	IC uPD75304GF-211-3B9	
		< COIL >	
L241	1-412-031-11	INDUCTOR CHIP 47uH	
		< DISPLAY PANEL >	
ND105	1-809-404-21	DISPLAY PANEL, LIQUID CRYSTAL	
		< TRANSISTOR >	
Q241	8-729-928-19	TRANSISTOR 2SA1774	
		< RESISTOR >	
R241	1-216-853-11	METAL CHIP 470K 5% 1/16W	
R242	1-216-853-11	METAL CHIP 470K 5% 1/16W	
R243	1-216-841-11	METAL CHIP 47K 5% 1/16W	
R244	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R246	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R247	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R248	1-216-837-11	METAL CHIP 22K 5% 1/16W	
R249	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R250	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R251	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R254	1-216-851-11	METAL CHIP 330K 5% 1/16W	
R256	1-216-841-11	METAL CHIP 47K 5% 1/16W	
R257	1-216-809-11	METAL CHIP 100 5% 1/16W	
R260	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R261	1-216-845-11	METAL CHIP 100K 5% 1/16W	

< NETWORK RESISTOR >

Ref. No.	Part No.	Description			Remark
RB241	1-236-436-11	NETWORK, RES 100K			
RB243	1-236-424-11	NETWORK, RES 10K			
RB244	1-236-907-11	RESISTOR, NETWORK (CHIP TYPE)			
RB246	1-236-904-11	RESISTOR, NETWORK (CHIP TYPE)			
RB247	1-236-904-11	RESISTOR, NETWORK (CHIP TYPE)			
RB248	1-236-436-11	NETWORK, RES 100K			
RB249	1-236-412-11	NETWORK, RES 1.0K			

< FLEXIBLE BOARD >

Ref. No.	Part No.	Description			Remark
W103	1-639-746-11	FP394 FLEXIBLE BOARD			

< VIBLATOR >

Ref. No.	Part No.	Description			Remark
X241	1-578-713-21	VIBLATOR, CERAMIC			
X242	1-579-049-21	VIBRATOR, CRYSTAL			

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* A-7071-464-A LJ-4 BOARD, COMPLETE

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(Ref.No 7,000 Series)

< CAPACITOR >

Ref. No.	Part No.	Description			Remark
C291	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C292	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V

< CONNECTOR >

Ref. No.	Part No.	Description			Remark
CN951	1-580-056-21	PIN, CONNECTOR 3P			

< DIODE >

Ref. No.	Part No.	Description			Remark
D291	8-719-420-14	DIODE MA8082			
D292	8-719-106-71	DIODE RD12M			
D293	8-719-404-46	DIODE MA110			

< JACK >

Ref. No.	Part No.	Description			Remark
J291	1-565-276-21	JACK, ULTRA SMALL 1P (REMOTE)			

< COIL >

Ref. No.	Part No.	Description			Remark
L291	1-410-369-11	INDUCTOR CHIP	1uH		
L292	1-410-369-11	INDUCTOR CHIP	1uH		
L293	1-410-369-11	INDUCTOR CHIP	1uH		

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* A-7062-882-A MA-111 BOARD, COMPLETE

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(Ref.No 6,000 Series)

Ref. No.	Part No.	Description			Remark
	3-943-010-01	PLATE, GROUND, MICROPHONE			

< CAPACITOR >

Ref. No.	Part No.	Description			Remark
C470	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C471	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C472	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C473	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C474	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C475	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C476	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C477	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C478	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C479	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C481	1-164-633-11	CERAMIC CHIP	0.1uF	10%	25V
C482	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C483	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C484	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C485	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C486	1-164-633-11	CERAMIC CHIP	0.1uF	10%	25V
C487	1-162-587-11	CERAMIC CHIP	0.039uF	10%	25V
C488	1-126-205-11	ELECT CHIP	47uF	20%	6.3V
C489	1-162-587-11	CERAMIC CHIP	0.039uF	10%	25V
C490	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C491	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C492	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V
C493	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V
C495	1-164-362-11	CERAMIC CHIP	470PF		50V
C496	1-164-362-11	CERAMIC CHIP	470PF		50V
C497	1-164-633-11	CERAMIC CHIP	0.1uF	10%	25V
C498	1-162-638-11	CERAMIC CHIP	1uF		16V
C499	1-164-633-11	CERAMIC CHIP	0.1uF	10%	25V
C500	1-162-638-11	CERAMIC CHIP	1uF		16V
C501	1-162-957-11	CERAMIC CHIP	220PF	5%	50V
C502	1-164-245-11	CERAMIC CHIP	0.015uF	10%	25V
C503	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C504	1-162-957-11	CERAMIC CHIP	220PF	5%	50V
C505	1-164-245-11	CERAMIC CHIP	0.015uF	10%	25V
C506	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C507	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C508	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C509	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C510	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C511	1-162-957-11	CERAMIC CHIP	220PF	5%	50V
C512	1-162-957-11	CERAMIC CHIP	220PF	5%	50V
C513	1-164-471-11	CERAMIC CHIP	680PF	5%	50V

Ref. No.	Part No.	Description			Remark
C514	1-135-161-21	TANTALUM CHIP	22uF	10%	10V

< CONNECTOR >

Ref. No.	Part No.	Description
CN605	1-566-760-11	PIN, CONNECTOR (PC BOARD) 5P
CN606	1-573-290-21	PIN, CONNECTOR (1.5MM) (SMD) 4P
CN607	1-573-290-21	PIN, CONNECTOR (1.5MM) (SMD) 4P
CN608	1-573-506-41	CONNECTOR, FPC (NON ZIF) 4P

< DIODE >

Ref. No.	Part No.	Description	
D101	8-719-420-14	DIODE	MA8082

< IC >

Ref. No.	Part No.	Description	
IC101	8-759-823-41	IC	LA7470M
IC102	8-741-100-63	IC	SBX1619-51

< JACK >

Ref. No.	Part No.	Description
J101	1-569-810-11	JACK (SMALL TYPE) (MIC)

< COIL >

Ref. No.	Part No.	Description	
L101	1-412-979-21	INDUCTOR	1uH
L102	1-412-979-21	INDUCTOR	1uH
L103	1-412-979-21	INDUCTOR	1uH

< TRANSISTOR >

Ref. No.	Part No.	Description	
Q101	8-729-822-97	TRANSISTOR	2SC4211-5.6.7
Q102	8-729-822-97	TRANSISTOR	2SC4211-5.6.7
Q103	8-729-822-48	TRANSISTOR	FC101
Q104	8-729-822-48	TRANSISTOR	FC101
Q106	8-729-823-00	TRANSISTOR	2SA1622-5.6.7
Q107	8-729-823-00	TRANSISTOR	2SA1622-5.6.7

< RESISTOR >

Ref. No.	Part No.	Description			Remark
R101	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R102	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R103	1-216-845-11	METAL CHIP	100K	5%	1/16W
R104	1-216-845-11	METAL CHIP	100K	5%	1/16W
R105	1-216-845-11	METAL CHIP	100K	5%	1/16W
R106	1-216-845-11	METAL CHIP	100K	5%	1/16W
R107	1-216-833-11	METAL CHIP	10K	5%	1/16W
R108	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R109	1-216-833-11	METAL CHIP	10K	5%	1/16W
R110	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R111	1-216-837-11	METAL CHIP	22K	5%	1/16W
R112	1-216-837-11	METAL CHIP	22K	5%	1/16W
R113	1-216-850-11	METAL CHIP	270K	5%	1/16W
R114	1-216-845-11	METAL CHIP	100K	5%	1/16W
R115	1-216-845-11	METAL CHIP	100K	5%	1/16W
R116	1-216-834-11	METAL CHIP	12K	5%	1/16W
R117	1-216-850-11	METAL CHIP	270K	5%	1/16W
R118	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
R119	1-216-834-11	METAL CHIP	12K	5%	1/16W
R122	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
R123	1-216-841-11	METAL CHIP	47K	5%	1/16W
R124	1-216-830-11	METAL CHIP	5.6K	5%	1/16W
R125	1-216-841-11	METAL CHIP	47K	5%	1/16W
R126	1-216-830-11	METAL CHIP	5.6K	5%	1/16W
R127	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R128	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R129	1-216-864-11	METAL CHIP	0	5%	1/16W
R130	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
R131	1-216-864-11	METAL CHIP	0	5%	1/16W
R132	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
R134	1-216-818-11	METAL CHIP	560	5%	1/16W
R135	1-216-837-11	METAL CHIP	22K	5%	1/16W
R136	1-216-837-11	METAL CHIP	22K	5%	1/16W
R137	1-216-818-11	METAL CHIP	560	5%	1/16W
R138	1-216-839-11	METAL CHIP	33K	5%	1/16W
R139	1-216-834-11	METAL CHIP	12K	5%	1/16W
R140	1-216-839-11	METAL CHIP	33K	5%	1/16W
R141	1-216-834-11	METAL CHIP	12K	5%	1/16W
R142	1-216-834-11	METAL CHIP	12K	5%	1/16W
R143	1-216-805-11	METAL CHIP	47	5%	1/16W
R144	1-216-864-11	METAL CHIP	0	5%	1/16W
R550	1-216-864-11	METAL CHIP	0	5%	1/16W
R587	1-216-864-11	METAL CHIP	0	5%	1/16W
R588	1-216-864-11	METAL CHIP	0	5%	1/16W

< SWITCH >

Ref. No.	Part No.	Description
S101	1-572-497-11	SWITCH, SLIDE (HiFi/WIND)

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* A-7062-876-A VC-104 BOARD, COMPLETE

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(Ref. No 1,000 Series)

< CAPACITOR >

Ref. No.	Part No.	Description			Remark
C701	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V
C702	1-164-633-11	CERAMIC CHIP	0.1uF	10%	25V
C703	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C705	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C706	1-164-633-11	CERAMIC CHIP	0.1uF	10%	25V
C707	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C708	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C709	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C710	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C711	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V

Ref. No.	Part No.	Description			Remark
C712	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C713	1-162-638-11	CERAMIC CHIP	1uF		16V
C714	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C717	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C718	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C719	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C721	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C722	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C723	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C724	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C725	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C726	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C728	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C729	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C734	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C737	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C738	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C739	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C741	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C742	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C743	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C744	1-162-638-11	CERAMIC CHIP	1uF		16V
C745	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C747	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C748	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C750	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C751	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C752	1-162-943-11	CERAMIC CHIP	15PF	5%	50V
C801	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C802	1-162-920-11	CERAMIC CHIP	27PF	5%	50V
C803	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C804	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C805	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C806	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C807	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C808	1-135-091-00	TANTALUM CHIP	1uF	20%	16V
C809	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C810	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C811	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C813	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C814	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C815	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C816	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C817	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C818	1-135-091-00	TANTALUM CHIP	1uF	20%	16V
C819	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C820	1-135-091-00	TANTALUM CHIP	1uF	20%	16V
C821	1-162-947-11	CERAMIC CHIP	33PF	5%	50V
C823	1-135-091-00	TANTALUM CHIP	1uF	20%	16V

Ref. No.	Part No.	Description			Remark
C826	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C827	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C830	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C832	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C833	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C834	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C835	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C836	1-126-205-11	ELECT CHIP	47uF	20%	6.3V
C837	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C838	1-135-145-11	TANTALUM CHIP	0.47uF	10%	35V
C839	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C841	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C851	1-164-633-11	CERAMIC CHIP	0.1uF	10%	25V
C852	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C853	1-162-638-11	CERAMIC CHIP	1uF		16V
C854	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C855	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C856	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C857	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C858	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C859	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C860	1-126-205-11	ELECT CHIP	47uF	20%	6.3V
C861	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C862	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C863	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C864	1-162-638-11	CERAMIC CHIP	1uF		16V
C866	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C868	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C869	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C870	1-164-173-11	CERAMIC CHIP	0.0039uF	10%	50V
C872	1-162-638-11	CERAMIC CHIP	1uF		16V

< CONNECTOR >

CN701	1-573-372-21	CONNECTOR, BOARD TO BOARD 18P			
CN801	1-573-525-21	CONNECTOR, BOARD TO BOARD 16P			
CN851	1-573-360-21	CONNECTOR, FFC/FPC 20P			

< TRIMMER >

CT801	9-910-999-34	CAP, VAR, TRIMMER (CHIP)			

< DIODE >

D701	8-719-404-46	DIODE	MA110		
D702	8-719-404-46	DIODE	MA110		

< IC >

IC701	8-759-243-19	IC	TC7SU04F		
IC702	8-759-635-27	IC	M62352GP		
IC703	8-759-518-62	IC	MB-90071-104-PF		
IC704	8-752-348-92	IC	CXD2101AR		

Ref. No.	Part No.	Description	Remark
IC705	8-759-519-13	IC CXD2103R	
IC706	8-752-337-36	IC CXD2104N	
IC707	8-752-337-32	IC CXD2100Q	
IC708	8-759-937-56	IC S-8054ALB-LM-S	
IC709	8-752-832-55	IC CXP80624-235Q	
IC710	8-759-519-14	IC MB8464-15LLPFTN	
IC711	8-759-518-81	IC CXD2112R	
IC712	8-759-720-45	IC CAT35C202K-TE10	
IC801	8-752-337-34	IC CXD1257R	
IC802	8-752-053-83	IC CXA1507AR	
IC803	8-752-053-26	IC CXA1399Q	
IC804	8-752-327-48	IC CXD1250N	
IC805	8-752-054-61	IC CXA1390AR	
IC851	8-759-981-82	IC RC3414M	
IC852	8-759-998-96	IC LM324D	
IC853	8-759-038-81	IC MPC1724MR	
IC854	8-759-823-51	IC LB1830M	
IC855	8-759-998-98	IC LM358D	
		< COIL >	
L701	1-412-006-31	INDUCTOR CHIP 10uH	
L702	1-412-006-31	INDUCTOR CHIP 10uH	
L703	1-412-006-31	INDUCTOR CHIP 10uH	
L704	1-412-006-31	INDUCTOR CHIP 10uH	
L705	1-412-006-31	INDUCTOR CHIP 10uH	
L706	1-412-058-11	INDUCTOR CHIP 10uH	
L707	1-412-006-31	INDUCTOR CHIP 10uH	
L708	1-412-052-21	INDUCTOR CHIP 1uH	
L709	1-412-052-21	INDUCTOR CHIP 1uH	
L711	1-412-052-21	INDUCTOR CHIP 1uH	
L712	1-412-979-21	INDUCTOR 1uH	
L713	1-412-979-21	INDUCTOR 1uH	
L714	1-412-006-31	INDUCTOR CHIP 10uH	
L715	1-412-058-11	INDUCTOR CHIP 10uH	
L716	1-412-052-21	INDUCTOR CHIP 1uH	
L717	1-412-058-11	INDUCTOR CHIP 10uH	
L718	1-412-006-31	INDUCTOR CHIP 10uH	
L720	1-412-006-31	INDUCTOR CHIP 10uH	
L721	1-410-391-11	INDUCTOR CHIP 68uH	
L801	1-412-058-11	INDUCTOR CHIP 10uH	
L802	1-412-006-31	INDUCTOR CHIP 10uH	
L803	1-412-058-11	INDUCTOR CHIP 10uH	
L804	1-412-058-11	INDUCTOR CHIP 10uH	
L851	1-412-058-11	INDUCTOR CHIP 10uH	
L853	1-412-058-11	INDUCTOR CHIP 10uH	
		< TRANSISTOR >	
Q701	8-729-928-87	TRANSISTOR DTC124EE	
Q702	8-729-427-74	TRANSISTOR XP4601	
Q703	8-729-928-19	TRANSISTOR 2SA1774	
Q704	8-729-928-19	TRANSISTOR 2SA1774	
Q705	8-729-928-81	TRANSISTOR DTC144EE	
Q706	8-729-927-XX	TRANSISTOR 2SC4617TL	
Q707	8-729-928-36	TRANSISTOR DTA114EE	
Q801	8-729-927-XX	TRANSISTOR 2SC4617TL	
Q802	8-729-427-80	TRANSISTOR XP6401	
Q851	8-729-927-XX	TRANSISTOR 2SC4617TL	
Q853	8-729-427-80	TRANSISTOR XP6401	
		< RESISTOR >	
R701	1-216-857-11	METAL CHIP 1M 5% 1/16W	
R702	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R703	1-216-837-11	METAL CHIP 22K 5% 1/16W	
R704	1-216-815-11	METAL CHIP 330 5% 1/16W	
R705	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R706	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	
R707	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	
R708	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R709	1-216-839-11	METAL CHIP 33K 5% 1/16W	
R710	1-216-857-11	METAL CHIP 1M 5% 1/16W	
R712	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R713	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R714	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R715	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R716	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R718	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	
R719	1-216-748-11	METAL CHIP 39K 5% 1/16W	
R721	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R722	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R723	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R724	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R725	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R726	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R727	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R728	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R729	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R730	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R731	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R732	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R733	1-216-822-11	METAL CHIP 1.2K 5% 1/16W	
R734	1-216-809-11	METAL CHIP 100 5% 1/16W	
R735	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	
R736	1-216-864-11	METAL CHIP 0 5% 1/16W	
R737	1-216-813-11	METAL CHIP 220 5% 1/16W	
R738	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	
R739	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R740	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R741	1-216-821-11	METAL CHIP 1K 5% 1/16W	

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Ref. No.	Part No.	Description	Remark
R742	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R744	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R745	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	
R748	1-216-864-11	METAL CHIP 0 5% 1/16W	
R749	1-216-841-11	METAL CHIP 47K 5% 1/16W	
R751	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R752	1-216-809-11	METAL CHIP 100 5% 1/16W	
R753	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	
R754	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R755	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R756	1-216-857-11	METAL CHIP 1M 5% 1/16W	
R757	1-216-857-11	METAL CHIP 1M 5% 1/16W	
R758	1-216-841-11	METAL CHIP 47K 5% 1/16W	
R759	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R760	1-216-857-11	METAL CHIP 1M 5% 1/16W	
R763	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R764	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R765	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R766	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R767	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R768	1-216-837-11	METAL CHIP 22K 5% 1/16W	
R769	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R770	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R771	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R774	1-216-841-11	METAL CHIP 47K 5% 1/16W	
R775	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R776	1-216-841-11	METAL CHIP 47K 5% 1/16W	
R777	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	
R778	1-216-839-11	METAL CHIP 33K 5% 1/16W	
R779	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R781	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R782	1-216-814-11	METAL CHIP 270 5% 1/16W	
R783	1-216-863-11	METAL GLAZE 3.3M 5% 1/16W	
R784	1-216-823-11	METAL CHIP 1.5K 5% 1/16W	
R785	1-216-841-11	METAL CHIP 47K 5% 1/16W	
R786	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	
R801	1-216-864-11	METAL CHIP 0 5% 1/16W	
R802	1-216-835-11	METAL CHIP 15K 5% 1/16W	
R803	1-216-823-11	METAL CHIP 1.5K 5% 1/16W	
R804	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R805	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R808	1-216-801-11	METAL CHIP 22 5% 1/16W	
R810	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	
R812	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	
R813	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	
R819	1-216-805-11	METAL CHIP 47 5% 1/16W	
R821	1-216-863-11	METAL GLAZE 3.3M 5% 1/16W	
R823	1-218-291-11	METAL CHIP 16K 0.50% 1/16W	
R825	1-216-832-11	METAL CHIP 8.2K 5% 1/16W	
R830	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R851	1-216-837-11	METAL CHIP 22K 5% 1/16W	
R852	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R853	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
R854	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R855	1-216-826-11	METAL CHIP 2.7K 5% 1/16W	
R857	1-216-848-11	METAL CHIP 180K 5% 1/16W	
R858	1-216-837-11	METAL CHIP 22K 5% 1/16W	
R859	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R860	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R861	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R862	1-216-848-11	METAL CHIP 180K 5% 1/16W	
R863	1-216-855-11	METAL CHIP 680K 5% 1/16W	
R864	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R865	1-216-837-11	METAL CHIP 22K 5% 1/16W	
R866	1-216-820-11	METAL CHIP 820 5% 1/16W	
R867	1-216-837-11	METAL CHIP 22K 5% 1/16W	
R868	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R869	1-218-744-11	METAL CHIP 150K 0.50% 1/16W	
R870	1-216-841-11	METAL CHIP 47K 5% 1/16W	
R871	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R872	1-216-851-11	METAL CHIP 330K 5% 1/16W	
R873	1-216-816-11	METAL CHIP 390 5% 1/16W	
R874	1-216-842-11	METAL CHIP 56K 5% 1/16W	
R875	1-216-134-00	METAL CHIP 2.2 5% 1/8W	
R876	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
R877	1-216-838-11	METAL CHIP 27K 5% 1/16W	
R880	1-216-837-11	METAL CHIP 22K 5% 1/16W	
R881	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	

< NETWORK RESISTOR >

Ref. No.	Part No.	Description	Remark
RB701	1-236-432-11	NETWORK, RES 47K	
RB702	1-236-432-11	NETWORK, RES 47K	
RB705	1-236-416-11	NETWORK, RES 2.2K	
RB706	1-236-416-11	NETWORK, RES 2.2K	
RB707	1-236-412-11	NETWORK, RES 1.0K	
RB708	1-236-416-11	NETWORK, RES 2.2K	
RB709	1-236-416-11	NETWORK, RES 2.2K	

< VIBRATOR >

Ref. No.	Part No.	Description	Remark
X701	1-579-369-21	VIBRATOR	
X801	1-579-076-11	VIBRATOR, CRYSTAL	

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Ref. No.	Part No.	Description			Remark
	* A-7062-880-A	VF-42P BOARD, COMPLETE			
		**********************			
		(Ref. No 7,000 Series)			
	3-942-888-01	HOLDER, LED			
		< CAPACITOR >			
C501	1-126-176-11	ELECT	220uF	20%	10V
C502	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C503	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C504	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C505	⚠ 1-164-758-91	CERAMIC CHIP	0.0039uF	5%	50V
C506	⚠ 1-162-625-11	CERAMIC CHIP	0.0047uF	5%	50V
C507	1-127-515-11	ELECT(SOLID)	47uF	20%	6.3V
C508	1-164-611-11	CERAMIC CHIP	0.001uF	10%	500V
C509	1-124-257-00	ELECT	2.2uF	20%	50V
C510	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C511	1-126-090-11	ELECT	82uF	20%	10V
C512	1-137-306-11	FILM CHIP	0.1uF	5%	16V
C513	1-164-337-11	CERAMIC CHIP	2.2uF		16V
C514	1-131-381-00	TANTALUM	47uF	10%	10V
C515	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C516	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V
		< CONNECTOR >			
CN501	* 1-566-759-11	PIN, CONNECTOR (PC BOARD)	4P		
CN502	* 1-566-195-11	PIN, CONNECTOR (PC BOARD)	2P		
CN503	* 1-566-195-11	PIN, CONNECTOR (PC BOARD)	2P		
		< DIODE >			
D501	8-719-820-65	DIODE	TLS221		
D502	8-719-984-02	LED	BR4371F		
D503	8-719-400-20	DIODE	MA152WA		
		< IC >			
IC501	8-759-420-01	IC	AN2512S		
		< COIL >			
L501	1-408-976-21	INDUCTOR 33uH			
L502	1-408-785-21	INDUCTOR CHIP 47uH			
L503	⚠ 1-459-876-41	COIL, FERRITE (HLC)			
		< TRANSISTOR >			
Q502	8-729-216-31	TRANSISTOR	2SA1163		
Q504	8-729-106-68	TRANSISTOR	2SD1615A		
		< RESISTOR >			
R501	1-216-033-00	METAL CHIP	220	5%	1/10W
R502	1-216-041-00	METAL CHIP	470	5%	1/10W
R503	1-216-041-00	METAL CHIP	470	5%	1/10W
R506	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R507	1-216-047-00	METAL CHIP	820	5%	1/10W
R508	1-216-748-11	METAL CHIP	39K	1%	1/10W
R509	1-216-748-11	METAL CHIP	39K	1%	1/10W
R510	1-216-001-00	METAL CHIP	10	5%	1/10W
R511	1-216-121-00	METAL CHIP	1M	5%	1/10W
R512	1-216-131-11	METAL CHIP	2.7M	5%	1/10W
R513	1-216-101-00	METAL CHIP	150K	5%	1/10W
R514	1-216-121-00	METAL CHIP	1M	5%	1/10W
R515	1-216-131-11	METAL CHIP	2.7M	5%	1/10W
R516	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R517	1-216-025-00	METAL CHIP	100	5%	1/10W
R518	1-216-308-00	METAL CHIP	4.7	5%	1/10W
R519	1-216-336-11	METAL CHIP	47K	1%	1/10W
R520	1-216-107-00	METAL CHIP	270K	5%	1/10W
R521	1-216-121-00	METAL CHIP	1M	5%	1/10W
R522	1-216-160-00	METAL GLAZE	27	5%	1/8W
R523	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R524	1-216-113-00	METAL CHIP	470K	5%	1/10W
R525	1-216-097-00	METAL CHIP	100K	5%	1/10W
		< VARIABLE RESISTOR >			
RV501	1-238-858-11	RES, ADJ, CERMET 47K			
RV502	1-238-852-11	RES, ADJ, CERMET 470			
RV503	1-238-854-11	RES, ADJ, CERMET 2.2K			
RV504	1-228-762-00	RES, ADJ, METAL GLAZE 1M			
		< TRANSFORMER >			
T501	⚠ 1-439-486-11	TRANSFORMER ASSY, FLYBACK			
		< THERMISTOR >			
TH501	1-809-350-21	THERMISTOR, NTC (2125)			
		< SOCKET >			
W501	⚠ 1-540-019-21	SOCKET ASSY, CRT			

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The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

VS-83

Ref. No.	Part No.	Description			Remark
*	A-7062-875-A	VS-83 BOARD, COMPLETE			
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		(Ref. No 2,000 Series)			
	1-630-591-11	FP-182 FLEXIBLE BOARD			
	3-754-038-01	MANUAL, INSTRUCTION			
	3-943-006-01	CASE (UPPER), SHIELD, RP			
	3-943-007-01	CASE (LOWER), SHIELD, RP			
	3-943-009-01	PLATE, SHIELD, FE			
		< CAPACITOR >			
C001	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C002	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C003	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C004	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C005	1-164-633-11	CERAMIC CHIP	0.1uF	10%	25V
C006	1-164-633-11	CERAMIC CHIP	0.1uF	10%	25V
C007	1-164-633-11	CERAMIC CHIP	0.1uF	10%	25V
C008	1-164-633-11	CERAMIC CHIP	0.1uF	10%	25V
C009	1-164-633-11	CERAMIC CHIP	0.1uF	10%	25V
C010	1-164-633-11	CERAMIC CHIP	0.1uF	10%	25V
C011	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C012	1-135-157-21	TANTALUM CHIP	10uF	20%	6.3V
C013	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C014	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C015	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C016	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C017	1-135-157-21	TANTALUM CHIP	10uF	20%	6.3V
C018	1-135-157-21	TANTALUM CHIP	10uF	20%	6.3V
C019	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C020	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C021	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C022	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C023	1-164-633-11	CERAMIC CHIP	0.1uF	10%	25V
C024	1-164-633-11	CERAMIC CHIP	0.1uF	10%	25V
C025	1-164-633-11	CERAMIC CHIP	0.1uF	10%	25V
C026	1-164-633-11	CERAMIC CHIP	0.1uF	10%	25V
C027	1-164-633-11	CERAMIC CHIP	0.1uF	10%	25V
C028	1-164-633-11	CERAMIC CHIP	0.1uF	10%	25V
C029	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C030	1-135-157-21	TANTALUM CHIP	10uF	20%	6.3V
C031	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C032	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C033	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C034	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C035	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C036	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C037	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C038	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C039	1-164-360-11	CERAMIC CHIP	0.1uF		16V

Ref. No.	Part No.	Description			Remark
C040	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C041	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C042	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C043	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C044	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C045	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C046	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C047	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C048	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C049	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C050	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C051	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C052	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C053	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C055	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C056	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C057	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C058	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C059	1-164-217-11	CERAMIC CHIP	150PF	0.25PF	50V
C060	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C061	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C062	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C063	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C064	1-162-925-11	CERAMIC CHIP	68PF	5%	50V
C065	1-164-218-11	CERAMIC CHIP	180PF	0.25PF	50V
C066	1-162-917-11	CERAMIC CHIP	15PF	5%	50V
C067	1-162-922-11	CERAMIC CHIP	39PF	5%	50V
C068	1-162-912-11	CERAMIC CHIP	7PF	0.5PF	50V
C069	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C070	1-164-361-11	CERAMIC CHIP	0.047uF		16V
C072	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C073	1-162-921-11	CERAMIC CHIP	33PF	5%	50V
C074	1-162-916-11	CERAMIC CHIP	12PF	5%	50V
C075	1-164-361-11	CERAMIC CHIP	0.047uF		16V
C076	1-164-361-11	CERAMIC CHIP	0.047uF		16V
C077	1-164-361-11	CERAMIC CHIP	0.047uF		16V
C078	1-164-361-11	CERAMIC CHIP	0.047uF		16V
C079	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C080	1-164-361-11	CERAMIC CHIP	0.047uF		16V
C081	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C083	1-162-918-11	CERAMIC CHIP	18PF	5%	50V
C084	1-164-361-11	CERAMIC CHIP	0.047uF		16V
C085	1-162-907-11	CERAMIC CHIP	2PF	0.25PF	50V
C086	1-162-913-11	CERAMIC CHIP	8PF	0.5PF	50V
C087	1-162-910-11	CERAMIC CHIP	5PF	0.25PF	50V
C088	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C089	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C091	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C092	1-162-974-11	CERAMIC CHIP	0.01uF		50V

Ref. No.	Part No.	Description			Remark
C093	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C094	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C095	1-162-995-11	CERAMIC CHIP	0.022uF		50V
C096	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C097	1-162-995-11	CERAMIC CHIP	0.022uF		50V
C098	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C099	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C151	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C152	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C153	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C154	1-135-180-21	TANTALUM CHIP	3.3uF	20%	6.3V
C155	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C156	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C158	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C159	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C160	1-162-995-11	CERAMIC CHIP	0.022uF		50V
C161	1-162-995-11	CERAMIC CHIP	0.022uF		50V
C162	1-162-995-11	CERAMIC CHIP	0.022uF		50V
C163	1-162-995-11	CERAMIC CHIP	0.022uF		50V
C164	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C165	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C166	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C167	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C168	1-135-179-21	TANTAL. CHIP	2.2uF	20%	16V
C169	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C170	1-164-633-11	CERAMIC CHIP	0.1uF	10%	25V
C171	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C172	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C173	1-164-633-11	CERAMIC CHIP	0.1uF	10%	25V
C174	1-135-091-00	TANTALUM CHIP	1uF	20%	16V
C175	1-163-833-00	CERAMIC CHIP	0.068uF		25V
C176	1-163-833-00	CERAMIC CHIP	0.068uF		25V
C177	1-164-634-11	CERAMIC CHIP	1uF		16V
C178	1-135-180-21	TANTALUM CHIP	3.3uF	20%	6.3V
C179	1-164-633-11	CERAMIC CHIP	0.1uF	10%	25V
C181	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C182	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C183	1-162-916-11	CERAMIC CHIP	12PF	5%	50V
C184	1-164-633-11	CERAMIC CHIP	0.1uF	10%	25V
C185	1-164-633-11	CERAMIC CHIP	0.1uF	10%	25V
C186	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C187	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C188	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C189	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C190	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C191	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C192	1-164-299-11	CERAMIC CHIP	0.22uF	10%	25V
C194	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C195	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C196	1-162-995-11	CERAMIC CHIP	0.022uF		50V
C197	1-164-633-11	CERAMIC CHIP	0.1uF	10%	25V
C198	1-164-633-11	CERAMIC CHIP	0.1uF	10%	25V
C199	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V
C200	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V
C201	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C202	1-164-633-11	CERAMIC CHIP	0.1uF	10%	25V
C203	1-164-634-11	CERAMIC CHIP	1uF		16V
C204	1-135-179-21	TANTAL. CHIP	2.2uF	20%	16V
C205	1-164-634-11	CERAMIC CHIP	1uF		16V
C206	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C207	1-162-965-11	CERAMIC CHIP	0.0015uF	10%	50V
C208	1-164-361-11	CERAMIC CHIP	0.047uF		16V
C209	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C210	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C211	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C212	1-162-995-11	CERAMIC CHIP	0.022uF		50V
C213	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C214	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C215	1-162-995-11	CERAMIC CHIP	0.022uF		50V
C216	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C217	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C218	1-164-222-11	CERAMIC CHIP	0.22uF		25V
C219	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C220	1-162-995-11	CERAMIC CHIP	0.022uF		50V
C221	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C222	1-162-995-11	CERAMIC CHIP	0.022uF		50V
C223	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C224	1-162-995-11	CERAMIC CHIP	0.022uF		50V
C225	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C226	1-162-995-11	CERAMIC CHIP	0.022uF		50V
C227	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C228	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C229	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C230	1-162-995-11	CERAMIC CHIP	0.022uF		50V
C231	1-164-173-11	CERAMIC CHIP	0.0039uF	10%	50V
C232	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C233	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C236	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C237	1-162-965-11	CERAMIC CHIP	0.0015uF	10%	50V
C301	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C302	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C303	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C304	1-162-920-11	CERAMIC CHIP	27PF	5%	50V
C306	1-135-163-21	TANTAL. CHIP	47uF	20%	4V
C307	1-162-959-11	CERAMIC CHIP	330PF	5%	50V
C308	1-162-948-11	CERAMIC CHIP	39PF	5%	50V
C309	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V

Ref. No.	Part No.	Description			Remark
C310	1-162-957-11	CERAMIC CHIP	220PF	5%	50V
C312	1-162-951-11	CERAMIC CHIP	68PF	5%	50V
C313	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C314	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C315	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C316	1-164-392-11	CERAMIC CHIP	390PF	5%	50V
C317	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C318	1-162-921-11	CERAMIC CHIP	33PF	5%	50V
C319	1-162-965-11	CERAMIC CHIP	0.0015uF	10%	50V
C320	1-162-958-11	CERAMIC CHIP	270PF	5%	50V
C322	1-162-949-11	CERAMIC CHIP	47PF	5%	50V
C323	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C324	1-162-949-11	CERAMIC CHIP	47PF	5%	50V
C326	1-162-916-11	CERAMIC CHIP	12PF	5%	50V
C327	1-164-362-11	CERAMIC CHIP	470PF		50V
C328	1-162-957-11	CERAMIC CHIP	220PF	5%	50V
C329	1-162-957-11	CERAMIC CHIP	220PF	5%	50V
C331	1-126-207-11	ELECT CHIP	33uF	20%	4V
C332	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C333	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C334	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C335	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C336	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C337	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C338	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C339	1-162-949-11	CERAMIC CHIP	47PF	5%	50V
C340	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C341	1-162-952-11	CERAMIC CHIP	82PF	5%	50V
C342	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C343	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C344	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C345	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C346	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C347	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V
C348	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C350	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C351	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C352	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C353	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C354	1-164-222-11	CERAMIC CHIP	0.22uF		25V
C355	1-164-361-11	CERAMIC CHIP	0.047uF		16V
C356	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C357	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C358	1-126-246-11	ELECT CHIP	220uF	20%	4V
C359	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C360	1-126-607-11	ELECT CHIP	47uF	20%	4V
C361	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C362	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C363	1-164-005-11	CERAMIC CHIP	0.47uF		25V

Ref. No.	Part No.	Description			Remark
C364	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C366	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C367	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C369	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C370	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C371	1-164-217-11	CERAMIC CHIP	150PF	0.25PF	50V
C372	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C374	1-135-180-21	TANTALUM CHIP	3.3uF	20%	6.3V
C375	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C376	1-162-954-11	CERAMIC CHIP	120PF	5%	50V
C377	1-162-959-11	CERAMIC CHIP	330PF	5%	50V
C378	1-135-180-21	TANTALUM CHIP	3.3uF	20%	6.3V
C379	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C380	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C381	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C382	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C383	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C384	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C385	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C387	1-162-638-11	CERAMIC CHIP	1uF		16V
C388	1-135-180-21	TANTALUM CHIP	3.3uF	20%	6.3V
C389	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C390	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C391	1-135-180-21	TANTALUM CHIP	3.3uF	20%	6.3V
C392	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C393	1-135-180-21	TANTALUM CHIP	3.3uF	20%	6.3V
C394	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C395	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C396	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C397	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C398	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C399	1-162-947-11	CERAMIC CHIP	33PF	5%	50V
C400	1-162-949-11	CERAMIC CHIP	47PF	5%	50V
C401	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C402	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C403	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C404	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C405	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C406	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C407	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C408	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C409	1-162-948-11	CERAMIC CHIP	39PF	5%	50V
C410	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C411	1-162-954-11	CERAMIC CHIP	120PF	5%	50V
C412	1-162-951-11	CERAMIC CHIP	68PF	5%	50V
C413	1-162-957-11	CERAMIC CHIP	220PF	5%	50V
C414	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C415	1-164-217-11	CERAMIC CHIP	150PF	0.25PF	50V
C416	1-162-953-11	CERAMIC CHIP	100PF	5%	50V

Ref.No.	Part No.	Description			Remark
C418	1-162-950-11	CERAMIC CHIP	56PF	5%	50V
C419	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C420	1-162-921-11	CERAMIC CHIP	33PF	5%	50V
C421	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C422	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C423	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C424	1-162-949-11	CERAMIC CHIP	47PF	5%	50V
C425	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C426	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C427	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C428	1-126-205-11	ELECT CHIP	47uF	20%	6.3V
C429	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C430	1-162-959-11	CERAMIC CHIP	330PF	5%	50V
C431	1-164-392-11	CERAMIC CHIP	390PF	5%	50V
C435	1-164-217-11	CERAMIC CHIP	150PF	0.25PF	50V
C436	1-162-995-11	CERAMIC CHIP	0.022uF		50V
C438	1-135-091-00	TANTALUM CHIP	1uF	20%	16V
C439	1-162-945-11	CERAMIC CHIP	22PF	5%	50V
C440	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C441	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C442	1-162-969-11	CERAMIC CHIP	0.0068uF	10%	25V
C443	1-135-146-21	TANTALUM CHIP	0.68uF	20%	25V
C444	1-135-091-00	TANTALUM CHIP	1uF	20%	16V
C445	1-162-941-11	CERAMIC CHIP	10PF	0.5PF	50V
C446	1-162-944-11	CERAMIC CHIP	18PF	5%	50V
C447	1-135-091-00	TANTALUM CHIP	1uF	20%	16V
C448	1-135-162-21	TANTALUM CHIP	33uF	20%	6.3V
C449	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C521	1-162-957-11	CERAMIC CHIP	220PF	5%	50V
C522	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C523	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C525	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C526	1-135-202-21	TANTAL. CHIP	22uF	20%	4V
C527	1-135-202-21	TANTAL. CHIP	22uF	20%	4V
C528	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C529	1-162-916-11	CERAMIC CHIP	12PF	5%	50V
C530	1-162-947-11	CERAMIC CHIP	33PF	5%	50V
C531	1-162-949-11	CERAMIC CHIP	47PF	5%	50V
C545	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C561	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C562	1-162-943-11	CERAMIC CHIP	15PF	5%	50V
C563	1-164-506-11	CERAMIC CHIP	4.7uF		16V
C564	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C565	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C566	1-163-118-00	CERAMIC CHIP	110PF	5%	50V
C567	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C568	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C569	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V

Ref.No.	Part No.	Description			Remark
C570	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C571	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C572	1-162-932-11	CERAMIC CHIP	2PF	0.25PF	50V
C573	1-164-145-11	CERAMIC CHIP	390PF	5%	50V
C574	1-162-638-11	CERAMIC CHIP	1uF		16V
C575	1-162-971-11	CERAMIC CHIP	0.001uF		50V
C576	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
C577	1-162-974-11	CERAMIC CHIP	0.01uF		50V
		< FILTER >			
CF301	1-579-371-11	FILTER, CERAMIC			
		< CONNECTOR >			
CN001	1-566-531-11	CONNECTOR, FPC (ZIF) 15P			
CN002	1-573-371-21	CONNECTOR, BOARD TO BOARD 14P			
CN101	1-573-524-21	CONNECTOR, BOARD TO BOARD 18P			
CN102	1-573-680-21	CONNECTOR, BOARD TO BOARD 18P			
CN204	1-566-546-11	CONNECTOR, FPC (NON ZIF) 14P			
CN205	1-566-541-11	CONNECTOR, FPC (NON ZIF) 9P			
CN206	1-566-538-11	CONNECTOR, FPC (NON ZIF) 6P			
CN207	1-573-293-21	PIN, CONNECTOR (SMD)			
CN208	1-580-056-21	PIN, CONNECTOR 3P			
CN301	1-566-542-31	CONNECTOR, FPC (NON ZIF) 10P			
CN302	1-580-789-21	PIN, CONNECTOR (SMD) 6P			
CN303	1-573-315-21	CONNECTOR, BOARD TO BOARD 30P			
CN502	1-565-662-11	CONNECTOR (PC BOARD) 15P			
		< DIODE >			
D001	8-719-800-76	DIODE	1SS226		
D151	8-719-421-27	DIODE	MA728		
D301	8-719-421-67	DIODE	MA132WK		
D302	8-719-421-67	DIODE	MA132WK		
D303	8-719-421-67	DIODE	MA132WK		
D305	8-719-421-71	DIODE	MA132WA		
D307	8-719-940-45	DIODE	DWA010		
D494	8-719-421-67	DIODE	MA132WK		
D495	8-719-421-67	DIODE	MA132WK		
D561	8-719-421-67	DIODE	MA132WK		
D562	8-719-421-67	DIODE	MA132WK		
		< FILTER >			
FL301	1-239-113-21	FILTER, LOW PASS (REC.Y)			
FL302	1-236-849-21	FILTER, BAND PASS			
FL303	1-236-186-11	FILTER, BAND PASS			
FL304	1-236-848-21	FILTER, LOW PASS			
FL305	1-239-055-21	FILTER, LOW PASS (CCD.PAL.Y)			
FL306	1-236-188-11	FILTER, BAND PASS			
FL494	1-236-834-21	FILTER, LOW PASS			
FL495	1-415-751-21	DELAY LINE, LC (YH)			

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Ref. No.	Part No.	Description	Remark
		< IC >	
IC001	8-752-033-38	IC CXA1202R	
IC002	8-752-033-38	IC CXA1202R	
IC003	8-752-053-21	IC CXA1211M-T3	
IC004	8-759-509-13	IC XRU4052BF	
IC005	8-759-998-32	IC CXD-2107M	
IC006	8-759-518-25	IC BA401F	
IC151	8-759-038-98	IC MPC1726MR2	
IC152	8-759-511-22	IC CXA1448N	
IC153	8-759-637-14	IC M66321GP	
IC154	8-759-823-90	IC LB8110M	
IC155	8-759-512-69	IC S-81350HG-KD	
IC156	8-752-833-38	IC CXP80624-244Q	
IC157	8-759-518-29	IC MCD004AM	
IC158	8-759-031-84	IC SC7S04F	
IC159	8-759-823-65	IC MCD002AM	
IC160	8-759-999-02	IC TL1596CDB	
IC161	8-759-512-42	IC CXA1481R	
IC301	8-759-710-29	IC NJM2235M	
IC302	8-752-036-19	IC CXA1207R	
IC303	8-752-036-20	IC CXA1208R	
IC304	8-752-333-24	IC CXL1506M	
IC305	8-752-053-21	IC CXA1211M	
IC306	8-759-636-33	IC CXA1452	
IC307	8-759-635-27	IC M62352GP	
IC308	8-759-635-27	IC M62352GP	
IC310	8-759-605-61	IC CXA1203N	
IC494	8-759-031-84	IC SC7S04F	
		< COIL >	
L001	1-412-066-21	INDUCTOR CHIP 220uH	
L002	1-412-066-21	INDUCTOR CHIP 220uH	
L003	1-410-385-11	INDUCTOR CHIP 22uH	
L004	1-410-385-11	INDUCTOR CHIP 22uH	
L005	1-412-058-11	INDUCTOR CHIP 10uH	
L006	1-412-066-21	INDUCTOR CHIP 220uH	
L007	1-410-381-11	INDUCTOR CHIP 10uH	
L061	1-410-658-31	INDUCTOR CHIP 220uH	
L062	1-410-655-31	INDUCTOR CHIP 120uH	
L063	1-412-280-31	INDUCTOR 330uH	
L064	1-410-380-31	INDUCTOR CHIP 8.2uH	
L065	1-410-384-31	INDUCTOR CHIP 18uH	
L066	1-412-282-41	INDUCTOR 470uH	
L067	1-412-282-41	INDUCTOR 470uH	
L068	1-410-384-31	INDUCTOR CHIP 18uH	
L091	1-412-064-11	INDUCTOR CHIP 100uH	
L151	1-412-062-11	INDUCTOR CHIP 47uH	
L152	1-412-058-11	INDUCTOR CHIP 10uH	
L153	1-412-058-11	INDUCTOR CHIP 10uH	
L154	1-412-280-31	INDUCTOR 330uH	
L301	1-412-052-21	INDUCTOR CHIP 1uH	
L302	1-412-052-21	INDUCTOR CHIP 1uH	
L303	1-410-389-31	INDUCTOR CHIP 47uH	
L305	1-412-940-21	INDUCTOR 1.2uH	
L306	1-412-956-21	INDUCTOR 27uH	
L307	1-412-940-21	INDUCTOR 1.2uH	
L308	1-412-058-11	INDUCTOR CHIP 10uH	
L309	1-410-385-11	INDUCTOR CHIP 22uH	
L310	1-412-280-31	INDUCTOR 330uH	
L311	1-410-167-41	INDUCTOR CHIP 820uH	
L312	1-410-657-21	INDUCTOR CHIP 180uH	
L314	1-410-383-31	INDUCTOR CHIP 15uH	
L315	1-410-379-21	INDUCTOR CHIP 6.8uH	
L317	1-410-393-11	INDUCTOR CHIP 100uH	
L318	1-412-946-11	INDUCTOR 3.9uH	
L319	1-412-950-11	INDUCTOR 8.2uH	
L321	1-412-058-11	INDUCTOR CHIP 10uH	
L322	1-412-058-11	INDUCTOR CHIP 10uH	
L323	1-410-656-11	INDUCTOR CHIP 150uH	
L324	1-410-393-11	INDUCTOR CHIP 100uH	
L325	1-412-062-11	INDUCTOR CHIP 47uH	
L326	1-412-052-21	INDUCTOR CHIP 1uH	
L327	1-412-062-11	INDUCTOR CHIP 47uH	
L328	1-412-058-11	INDUCTOR CHIP 10uH	
L329	1-412-058-11	INDUCTOR CHIP 10uH	
L330	1-412-058-11	INDUCTOR CHIP 10uH	
L331	1-410-655-31	INDUCTOR CHIP 120uH	
L332	1-410-393-11	INDUCTOR CHIP 100uH	
L333	1-410-379-31	INDUCTOR CHIP 6.8uH	
L334	1-410-393-11	INDUCTOR CHIP 100uH	
L336	1-410-386-11	INDUCTOR CHIP 27uH	
L337	1-410-379-31	INDUCTOR CHIP 6.8uH	
L338	1-410-379-31	INDUCTOR CHIP 6.8uH	
L350	1-412-958-21	INDUCTOR 39uH	
L494	1-410-393-11	INDUCTOR CHIP 100uH	
L561	1-412-058-11	INDUCTOR CHIP 10uH	
		< IC LINK >	
PS151	⚠ 1-532-605-00	LINK, IC 0.4A	
PS152	⚠ 1-576-123-21	LINK, IC	
		< TRANSISTOR >	
Q001	8-729-823-86	TRANSISTOR 2SA1745	
Q002	8-729-823-86	TRANSISTOR 2SA1745	
Q003	8-729-823-86	TRANSISTOR 2SA1745	
Q004	8-729-823-86	TRANSISTOR 2SA1745	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
Q005	8-729-928-81	TRANSISTOR DTC144EE	
Q006	8-729-928-81	TRANSISTOR DTC144EE	
Q007	8-729-928-81	TRANSISTOR DTC144EE	
Q008	8-729-928-81	TRANSISTOR DTC144EE	
Q009	8-729-928-19	TRANSISTOR 2SA1774	
Q010	8-729-928-19	TRANSISTOR 2SA1774	
Q011	8-729-928-19	TRANSISTOR 2SA1774	
Q012	8-729-928-19	TRANSISTOR 2SA1774	
Q013	8-729-928-27	TRANSISTOR DTA144EE	
Q014	8-729-928-19	TRANSISTOR 2SA1774	
Q016	8-729-216-22	TRANSISTOR 2SA1162	
Q061	8-729-927-99	TRANSISTOR 2SC4617	
Q062	8-729-928-19	TRANSISTOR 2SA1774	
Q063	8-729-117-73	TRANSISTOR 2SC4178	
Q064	8-729-928-19	TRANSISTOR 2SA1774	
Q065	8-729-927-99	TRANSISTOR 2SC4617	
Q066	8-729-928-81	TRANSISTOR DTC144EE	
Q067	8-729-117-73	TRANSISTOR 2SC4178	
Q068	8-729-117-73	TRANSISTOR 2SC4178	
Q070	8-729-117-73	TRANSISTOR 2SC4178	
Q071	8-729-927-99	TRANSISTOR 2SC4617	
Q072	8-729-928-81	TRANSISTOR DTC144EE	
Q073	8-729-928-19	TRANSISTOR 2SA1774	
Q074	8-729-928-81	TRANSISTOR DTC144EE	
Q075	8-729-927-99	TRANSISTOR 2SC4617	
Q076	8-729-928-81	TRANSISTOR DTC144EE	
Q151	8-729-928-27	TRANSISTOR DTA144EE	
Q152	8-729-928-90	TRANSISTOR DTC114EE	
Q301	8-729-101-07	TRANSISTOR 2SB798-DL	
Q304	8-729-927-99	TRANSISTOR 2SC4617	
Q305	8-729-928-81	TRANSISTOR DTC144EE	
Q306	8-729-823-16	TRANSISTOR 2SC4555	
Q308	8-729-117-73	TRANSISTOR 2SC4178	
Q309	8-729-117-73	TRANSISTOR 2SC4178	
Q310	8-729-927-87	TRANSISTOR 2SA1579RR	
Q311	8-729-928-19	TRANSISTOR 2SA1774	
Q312	8-729-928-81	TRANSISTOR DTC144EE	
Q313	8-729-928-19	TRANSISTOR 2SA1774	
Q314	8-729-928-19	TRANSISTOR 2SA1774	
Q315	8-729-928-81	TRANSISTOR DTC144EE	
Q318	8-729-927-99	TRANSISTOR 2SC4617	
Q319	8-729-927-99	TRANSISTOR 2SC4617	
Q320	8-729-927-99	TRANSISTOR 2SC4617	
Q324	8-729-427-72	TRANSISTOR XP4501	
Q325	8-729-928-19	TRANSISTOR 2SA1774	
Q328	8-729-927-99	TRANSISTOR 2SC4617	
Q329	8-729-927-99	TRANSISTOR 2SC4617	
Q331	8-729-427-72	TRANSISTOR XP4501	
Q333	8-729-927-99	TRANSISTOR 2SC4617	
Q334	8-729-427-72	TRANSISTOR XP4501	
Q336	8-729-807-87	TRANSISTOR 2SB1295-UL6	
Q337	8-729-928-81	TRANSISTOR DTC144EE	
Q338	8-729-427-46	TRANSISTOR XP4213	
Q340	8-729-429-96	TRANSISTOR 2SB1219A	
Q341	8-729-928-19	TRANSISTOR 2SA1774	
Q343	8-729-429-50	TRANSISTOR XP4312	
Q344	8-729-927-99	TRANSISTOR 2SC4617	
Q346	8-729-427-46	TRANSISTOR XP4213	
Q350	8-729-928-81	TRANSISTOR DTC144EE	
Q351	8-729-429-50	TRANSISTOR XP4312	
Q352	8-729-928-81	TRANSISTOR DTC144EE	
Q353	8-729-427-46	TRANSISTOR XP4213	
Q355	8-729-429-96	TRANSISTOR 2SB1219A	
Q356	8-729-928-19	TRANSISTOR 2SA1774	
Q357	8-729-928-19	TRANSISTOR 2SA1774	
Q358	8-729-927-99	TRANSISTOR 2SC4617	
Q359	8-729-927-99	TRANSISTOR 2SC4617	
Q360	8-729-927-99	TRANSISTOR 2SC4617	
Q361	8-729-928-19	TRANSISTOR 2SA1774	
Q362	8-729-928-81	TRANSISTOR DTC144EE	
Q363	8-729-928-19	TRANSISTOR 2SA1774	
Q364	8-729-928-11	TRANSISTOR 2SC4649TL	
Q366	8-729-928-81	TRANSISTOR DTC144EE	
Q367	8-729-928-81	TRANSISTOR DTC144EE	
Q368	8-729-823-16	TRANSISTOR 2SC4555	
Q370	8-729-823-16	TRANSISTOR 2SC4555	
Q371	8-729-927-99	TRANSISTOR 2SC4617	
Q373	8-729-928-81	TRANSISTOR DTC144EE	
Q374	8-729-927-99	TRANSISTOR 2SC4617	
Q375	8-729-928-27	TRANSISTOR DTA144EE	
Q376	8-729-927-99	TRANSISTOR 2SC4617	
Q377	8-729-928-81	TRANSISTOR DTC144EE	
Q380	8-729-928-27	TRANSISTOR DTA144EE	
Q397	8-729-927-99	TRANSISTOR 2SC4617	
Q398	8-729-928-27	TRANSISTOR DTA144EE	
Q494	8-729-928-19	TRANSISTOR 2SA1774	
Q495	8-729-927-99	TRANSISTOR 2SC4617	
Q496	8-729-927-99	TRANSISTOR 2SC4617	
Q497	8-729-927-99	TRANSISTOR 2SC4617	
Q498	8-729-928-19	TRANSISTOR 2SA1774	
Q499	8-729-927-99	TRANSISTOR 2SC4617	
Q500	8-729-427-46	TRANSISTOR XP4213	
Q501	8-729-928-81	TRANSISTOR DTC144EE	
Q522	8-729-928-19	TRANSISTOR 2SA1774	
Q523	8-729-928-81	TRANSISTOR DTC144EE	
Q524	8-729-429-50	TRANSISTOR XP4312	
Q527	8-729-117-73	TRANSISTOR 2SC4178	

Ref. No.	Part No.	Description				Remark
Q561	8-729-928-81	TRANSISTOR	DTC144EE			
Q562	8-729-117-73	TRANSISTOR	2SC4178			
Q563	8-729-117-73	TRANSISTOR	2SC4178			
Q564	8-729-928-27	TRANSISTOR	DTA144EE			
Q565	8-729-927-99	TRANSISTOR	2SC4617			
Q566	8-729-928-81	TRANSISTOR	DTC144EE			
Q567	8-729-928-27	TRANSISTOR	DTA144EE			
		< RESISTOR >				
R001	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R002	1-216-827-11	METAL CHIP	3.3K	5%	1/16W	
R003	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R004	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	
R005	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R006	1-216-840-11	METAL CHIP	39K	5%	1/16W	
R007	1-216-831-11	METAL CHIP	6.8K	5%	1/16W	
R008	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R009	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R010	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R011	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R012	1-216-840-11	METAL CHIP	39K	5%	1/16W	
R013	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R014	1-216-840-11	METAL CHIP	39K	5%	1/16W	
R015	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R016	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	
R017	1-216-827-11	METAL CHIP	3.3K	5%	1/16W	
R018	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R019	1-216-791-11	METAL CHIP	3.3	5%	1/16W	
R020	1-216-791-11	METAL CHIP	3.3	5%	1/16W	
R021	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R022	1-216-827-11	METAL CHIP	3.3K	5%	1/16W	
R023	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R024	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	
R025	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R026	1-216-840-11	METAL CHIP	39K	5%	1/16W	
R027	1-216-831-11	METAL CHIP	6.8K	5%	1/16W	
R028	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R029	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R030	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R031	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R032	1-216-840-11	METAL CHIP	39K	5%	1/16W	
R033	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R034	1-216-840-11	METAL CHIP	39K	5%	1/16W	
R035	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R036	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	
R037	1-216-827-11	METAL CHIP	3.3K	5%	1/16W	
R038	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R039	1-216-832-11	METAL CHIP	8.2K	5%	1/16W	
R040	1-216-841-11	METAL CHIP	47K	5%	1/16W	

Ref. No.	Part No.	Description				Remark
R041	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R042	1-216-832-11	METAL CHIP	8.2K	5%	1/16W	
R043	1-216-827-11	METAL CHIP	3.3K	5%	1/16W	
R044	1-216-824-11	METAL CHIP	1.8K	5%	1/16W	
R045	1-216-828-11	METAL CHIP	3.9K	5%	1/16W	
R046	1-216-864-11	METAL CHIP	0	5%	1/16W	
R051	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R052	1-216-839-11	METAL CHIP	33K	5%	1/16W	
R053	1-216-815-11	METAL CHIP	330	5%	1/16W	
R054	1-216-817-11	METAL CHIP	470	5%	1/16W	
R056	1-216-801-11	METAL CHIP	22	5%	1/16W	
R057	1-216-818-11	METAL CHIP	560	5%	1/16W	
R061	1-216-815-11	METAL CHIP	330	5%	1/16W	
R062	1-216-823-11	METAL CHIP	1.5K	5%	1/16W	
R063	1-216-830-11	METAL CHIP	5.6K	5%	1/16W	
R064	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R065	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R066	1-216-818-11	METAL CHIP	560	5%	1/16W	
R067	1-216-818-11	METAL CHIP	560	5%	1/16W	
R068	1-216-830-11	METAL CHIP	5.6K	5%	1/16W	
R069	1-216-817-11	METAL CHIP	470	5%	1/16W	
R070	1-216-817-11	METAL CHIP	470	5%	1/16W	
R071	1-216-809-11	METAL CHIP	100	5%	1/16W	
R072	1-216-818-11	METAL CHIP	560	5%	1/16W	
R073	1-216-827-11	METAL CHIP	3.3K	5%	1/16W	
R074	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R075	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R076	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R077	1-216-815-11	METAL CHIP	330	5%	1/16W	
R078	1-216-811-11	METAL CHIP	150	5%	1/16W	
R079	1-216-818-11	METAL CHIP	560	5%	1/16W	
R080	1-216-819-11	METAL CHIP	680	5%	1/16W	
R081	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R086	1-216-823-11	METAL CHIP	1.5K	5%	1/16W	
R087	1-216-817-11	METAL CHIP	470	5%	1/16W	
R088	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R089	1-216-832-11	METAL CHIP	8.2K	5%	1/16W	
R090	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R091	1-216-818-11	METAL CHIP	560	5%	1/16W	
R092	1-216-814-11	METAL CHIP	270	5%	1/16W	
R093	1-216-820-11	METAL CHIP	820	5%	1/16W	
R094	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R095	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R096	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R097	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R098	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R099	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R151	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R152	1-216-019-00	METAL CHIP	56	5%	1/10W	

Ref. No.	Part No.	Description			Remark
R153	1-216-853-11	METAL CHIP	470K	5%	1/16W
R154	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
R155	1-216-833-11	METAL CHIP	10K	5%	1/16W
R156	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R157	1-216-845-11	METAL CHIP	100K	5%	1/16W
R158	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R159	1-216-841-11	METAL CHIP	47K	5%	1/16W
R160	1-216-861-11	METAL CHIP	2.2M	5%	1/16W
R161	1-216-852-11	METAL CHIP	390K	5%	1/16W
R162	1-216-839-11	METAL CHIP	33K	5%	1/16W
R163	1-216-838-11	METAL CHIP	27K	5%	1/16W
R164	1-216-833-11	METAL CHIP	10K	5%	1/16W
R165	1-216-839-11	METAL CHIP	33K	5%	1/16W
R166	1-216-845-11	METAL CHIP	100K	5%	1/16W
R167	1-216-839-11	METAL CHIP	33K	5%	1/16W
R168	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R170	1-216-809-11	METAL CHIP	100	5%	1/16W
R171	1-217-671-11	METAL CHIP	1	5%	1/10W
R172	1-217-671-11	METAL CHIP	1	5%	1/10W
R173	1-217-671-11	METAL CHIP	1	5%	1/10W
R174	1-217-671-11	METAL CHIP	1	5%	1/10W
R176	1-216-826-11	METAL CHIP	2.7K	5%	1/16W
R177	1-216-864-11	METAL CHIP	0	5%	1/16W
R178	1-216-833-11	METAL CHIP	10K	5%	1/16W
R179	1-216-864-11	METAL CHIP	0	5%	1/16W
R180	1-216-864-11	METAL CHIP	0	5%	1/16W
R181	1-216-841-11	METAL CHIP	47K	5%	1/16W
R182	1-216-833-11	METAL CHIP	10K	5%	1/16W
R183	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R185	1-216-840-11	METAL CHIP	39K	5%	1/16W
R187	1-216-833-11	METAL CHIP	10K	5%	1/16W
R188	1-216-833-11	METAL CHIP	10K	5%	1/16W
R190	1-216-853-11	METAL CHIP	470K	5%	1/16W
R191	1-216-849-11	METAL CHIP	220K	5%	1/16W
R192	1-216-826-11	METAL CHIP	2.7K	5%	1/16W
R193	1-216-809-11	METAL CHIP	100	5%	1/16W
R194	1-216-833-11	METAL CHIP	10K	5%	1/16W
R195	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R196	1-216-824-11	METAL CHIP	1.8K	5%	1/16W
R197	1-216-824-11	METAL CHIP	1.8K	5%	1/16W
R198	1-216-849-11	METAL CHIP	220K	5%	1/16W
R199	1-216-833-11	METAL CHIP	10K	5%	1/16W
R200	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R201	1-216-841-11	METAL CHIP	47K	5%	1/16W
R202	1-216-834-11	METAL CHIP	12K	5%	1/16W
R203	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R204	1-216-856-11	METAL CHIP	820K	5%	1/16W
R205	1-216-856-11	METAL CHIP	820K	5%	1/16W
R206	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R207	1-216-837-11	METAL CHIP	22K	5%	1/16W
R208	1-216-841-11	METAL CHIP	47K	5%	1/16W
R209	1-216-837-11	METAL CHIP	22K	5%	1/16W
R210	1-216-815-11	METAL CHIP	330	5%	1/16W
R211	1-216-845-11	METAL CHIP	100K	5%	1/16W
R213	1-216-821-11	METAL CHIP	1K	5%	1/16W
R214	1-216-841-11	METAL CHIP	47K	5%	1/16W
R215	1-216-864-11	METAL CHIP	0	5%	1/16W
R216	1-216-824-11	METAL CHIP	1.8K	5%	1/16W
R217	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R218	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R224	1-216-833-11	METAL CHIP	10K	5%	1/16W
R225	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R226	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R227	1-216-819-11	METAL CHIP	680	5%	1/16W
R229	1-216-864-11	METAL CHIP	0	5%	1/16W
R231	1-216-845-11	METAL CHIP	100K	5%	1/16W
R237	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R238	1-216-833-11	METAL CHIP	10K	5%	1/16W
R239	1-216-826-11	METAL CHIP	2.7K	5%	1/16W
R301	1-216-830-11	METAL CHIP	5.6K	5%	1/16W
R302	1-216-304-11	METAL CHIP	3.3	5%	1/10W
R304	1-216-820-11	METAL CHIP	820	5%	1/16W
R305	1-216-836-11	METAL CHIP	18K	5%	1/16W
R306	1-216-821-11	METAL CHIP	1K	5%	1/16W
R307	1-216-837-11	METAL CHIP	22K	5%	1/16W
R308	1-216-817-11	METAL CHIP	470	5%	1/16W
R309	1-216-817-11	METAL CHIP	470	5%	1/16W
R311	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R312	1-216-830-11	METAL CHIP	5.6K	5%	1/16W
R313	1-216-819-11	METAL CHIP	680	5%	1/16W
R314	1-216-819-11	METAL CHIP	680	5%	1/16W
R315	1-216-816-11	METAL CHIP	390	5%	1/16W
R316	1-216-817-11	METAL CHIP	470	5%	1/16W
R317	1-216-801-11	METAL CHIP	22	5%	1/16W
R318	1-216-821-11	METAL CHIP	1K	5%	1/16W
R319	1-216-820-11	METAL CHIP	820	5%	1/16W
R320	1-216-837-11	METAL CHIP	22K	5%	1/16W
R321	1-216-833-11	METAL CHIP	10K	5%	1/16W
R322	1-216-817-11	METAL CHIP	470	5%	1/16W
R323	1-216-817-11	METAL CHIP	470	5%	1/16W
R324	1-216-817-11	METAL CHIP	470	5%	1/16W
R325	1-216-841-11	METAL CHIP	47K	5%	1/16W
R327	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R328	1-216-821-11	METAL CHIP	1K	5%	1/16W
R329	1-216-821-11	METAL CHIP	1K	5%	1/16W
R330	1-216-864-11	METAL CHIP	0	5%	1/16W
R332	1-216-837-11	METAL CHIP	22K	5%	1/16W

Ref. No.	Part No.	Description				Remark
R333	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R334	1-216-824-11	METAL CHIP	1.8K	5%	1/16W	
R335	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R336	1-216-811-11	METAL CHIP	150	5%	1/16W	
R337	1-216-831-11	METAL CHIP	6.8K	5%	1/16W	
R338	1-216-835-11	METAL CHIP	15K	5%	1/16W	
R339	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R340	1-216-818-11	METAL CHIP	560	5%	1/16W	
R341	1-216-811-11	METAL CHIP	150	5%	1/16W	
R342	1-216-819-11	METAL CHIP	680	5%	1/16W	
R348	1-216-814-11	METAL CHIP	270	5%	1/16W	
R349	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R350	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R351	1-216-824-11	METAL CHIP	1.8K	5%	1/16W	
R352	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	
R353	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R354	1-216-864-11	METAL CHIP	0	5%	1/16W	
R356	1-216-864-11	METAL CHIP	0	5%	1/16W	
R357	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R358	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R359	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R360	1-216-813-11	METAL CHIP	220	5%	1/16W	
R361	1-216-811-11	METAL CHIP	150	5%	1/16W	
R362	1-216-813-11	METAL CHIP	220	5%	1/16W	
R363	1-216-827-11	METAL CHIP	3.3K	5%	1/16W	
R365	1-216-815-11	METAL CHIP	330	5%	1/16W	
R367	1-216-813-11	METAL CHIP	220	5%	1/16W	
R368	1-216-818-11	METAL CHIP	560	5%	1/16W	
R369	1-216-864-11	METAL CHIP	0	5%	1/16W	
R370	1-216-839-11	METAL CHIP	33K	5%	1/16W	
R371	1-216-831-11	METAL CHIP	6.8K	5%	1/16W	
R372	1-216-817-11	METAL CHIP	470	5%	1/16W	
R373	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	
R374	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R375	1-216-840-11	METAL CHIP	39K	5%	1/16W	
R376	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R377	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R378	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R379	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R380	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R381	1-216-822-11	METAL CHIP	1.2K	5%	1/16W	
R382	1-216-818-11	METAL CHIP	560	5%	1/16W	
R383	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	
R384	1-216-818-11	METAL CHIP	560	5%	1/16W	
R385	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R386	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R387	1-216-827-11	METAL CHIP	3.3K	5%	1/16W	
R388	1-216-823-11	METAL CHIP	1.5K	5%	1/16W	
R389	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R390	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	
R391	1-216-804-11	METAL CHIP	39	5%	1/16W	
R392	1-216-804-11	METAL CHIP	39	5%	1/16W	
R393	1-216-804-11	METAL CHIP	39	5%	1/16W	
R394	1-216-804-11	METAL CHIP	39	5%	1/16W	
R395	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R396	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R397	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R398	1-216-820-11	METAL CHIP	820	5%	1/16W	
R399	1-216-853-11	METAL CHIP	470K	5%	1/16W	
R400	1-216-818-11	METAL CHIP	560	5%	1/16W	
R401	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R402	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R403	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R404	1-216-826-11	METAL CHIP	2.7K	5%	1/16W	
R405	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R406	1-216-822-11	METAL CHIP	1.2K	5%	1/16W	
R407	1-218-859-11	METAL CHIP	3.3K	0.50%	1/16W	
R409	1-216-827-11	METAL CHIP	3.3K	5%	1/16W	
R410	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R411	1-216-819-11	METAL CHIP	680	5%	1/16W	
R412	1-216-846-11	METAL CHIP	120K	5%	1/16W	
R413	1-216-820-11	METAL CHIP	820	5%	1/16W	
R414	1-216-820-11	METAL CHIP	820	5%	1/16W	
R415	1-216-848-11	METAL CHIP	180K	5%	1/16W	
R416	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R417	1-216-828-11	METAL CHIP	3.9K	5%	1/16W	
R418	1-216-820-11	METAL CHIP	820	5%	1/16W	
R419	1-216-833-11	METAL CHIP	10K	5%	1/16W	
R420	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R421	1-216-827-11	METAL CHIP	3.3K	5%	1/16W	
R422	1-216-857-11	METAL CHIP	1M	5%	1/16W	
R423	1-216-810-11	METAL CHIP	120	5%	1/16W	
R425	1-216-844-11	METAL CHIP	82K	5%	1/16W	
R426	1-216-864-11	METAL CHIP	0	5%	1/16W	
R430	1-216-839-11	METAL CHIP	33K	5%	1/16W	
R431	1-216-842-11	METAL CHIP	56K	5%	1/16W	
R432	1-216-839-11	METAL CHIP	33K	5%	1/16W	
R433	1-216-842-11	METAL CHIP	56K	5%	1/16W	
R434	1-216-817-11	METAL CHIP	470	5%	1/16W	
R435	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R436	1-216-817-11	METAL CHIP	470	5%	1/16W	
R437	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R438	1-216-826-11	METAL CHIP	2.7K	5%	1/16W	
R439	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R440	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	
R441	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	
R442	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	
R443	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	

Ref. No.	Part No.	Description	Remark
R444	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R445	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R446	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	
R447	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	
R448	1-216-837-11	METAL CHIP 22K 5% 1/16W	
R449	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	
R450	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R451	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	
R452	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R454	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R455	1-216-864-11	METAL CHIP 0 5% 1/16W	
R459	1-216-864-11	METAL CHIP 0 5% 1/16W	
R460	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
R461	1-216-839-11	METAL CHIP 33K 5% 1/16W	
R462	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R463	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	
R464	1-216-822-11	METAL CHIP 1.2K 5% 1/16W	
R465	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	
R466	1-216-824-11	METAL CHIP 1.8K 5% 1/16W	
R467	1-216-824-11	METAL CHIP 1.8K 5% 1/16W	
R468	1-216-817-11	METAL CHIP 470 5% 1/16W	
R469	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R470	1-216-841-11	METAL CHIP 47K 5% 1/16W	
R471	1-216-817-11	METAL CHIP 470 5% 1/16W	
R475	1-216-816-11	METAL CHIP 390 5% 1/16W	
R476	1-216-841-11	METAL CHIP 47K 5% 1/16W	
R477	1-216-841-11	METAL CHIP 47K 5% 1/16W	
R478	1-216-823-11	METAL CHIP 1.5K 5% 1/16W	
R479	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
R480	1-216-830-11	METAL CHIP 5.6K 5% 1/16W	
R481	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R482	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
R483	1-216-828-11	METAL CHIP 3.9K 5% 1/16W	
R484	1-216-830-11	METAL CHIP 5.6K 5% 1/16W	
R485	1-216-830-11	METAL CHIP 5.6K 5% 1/16W	
R488	1-216-834-11	METAL CHIP 12K 5% 1/16W	
R489	1-216-838-11	METAL CHIP 27K 5% 1/16W	
R490	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	
R491	1-216-817-11	METAL CHIP 470 5% 1/16W	
R492	1-216-823-11	METAL CHIP 1.5K 5% 1/16W	
R493	1-216-823-11	METAL CHIP 1.5K 5% 1/16W	
R494	1-216-864-11	METAL CHIP 0 5% 1/16W	
R497	1-216-837-11	METAL CHIP 22K 5% 1/16W	
R498	1-216-839-11	METAL CHIP 33K 5% 1/16W	
R501	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
R502	1-216-864-11	METAL CHIP 0 5% 1/16W	
R504	1-216-864-11	METAL CHIP 0 5% 1/16W	
R505	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R506	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	

Ref. No.	Part No.	Description	Remark
R507	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R508	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R511	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
R513	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	
R514	1-216-818-11	METAL CHIP 560 5% 1/16W	
R516	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R517	1-216-815-11	METAL CHIP 330 5% 1/16W	
R518	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R519	1-216-818-11	METAL CHIP 560 5% 1/16W	
R520	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R521	1-216-840-11	METAL CHIP 39K 5% 1/16W	
R522	1-216-814-11	METAL CHIP 270 5% 1/16W	
R523	1-216-837-11	METAL CHIP 22K 5% 1/16W	
R524	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	
R525	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R526	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R527	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	
R528	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	
R529	1-216-811-11	METAL CHIP 150 5% 1/16W	
R530	1-216-837-11	METAL CHIP 22K 5% 1/16W	
R531	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	
R535	1-216-815-11	METAL CHIP 330 5% 1/16W	
R537	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R538	1-216-841-11	METAL CHIP 47K 5% 1/16W	
R549	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R562	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R563	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R564	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	
R565	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R566	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R567	1-216-839-11	METAL CHIP 33K 5% 1/16W	
R568	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R569	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R570	1-216-817-11	METAL CHIP 470 5% 1/16W	
R571	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R572	1-216-839-11	METAL CHIP 33K 5% 1/16W	
R573	1-216-837-11	METAL CHIP 22K 5% 1/16W	
R574	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R575	1-216-832-11	METAL CHIP 8.2K 5% 1/16W	
R576	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R577	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	
R578	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	
R579	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R580	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
R581	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
R583	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R585	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R586	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	

Ref. No.	Part No.	Description	Remark
		< NETWORK RESISTOR >	
RB154	1-236-412-11	NETWORK, RES 1.0K	
RB155	1-236-412-11	NETWORK, RES 1.0K	
RB156	1-236-416-11	NETWORK, RES 2.2K	
RB157	1-236-442-11	NETWORK, RES 330K	
RB158	1-236-432-11	NETWORK, RES 47K	
RB159	1-236-424-11	NETWORK, RES 10K	
RB160	1-236-448-11	NETWORK, RES 1.0M	
RB161	1-236-907-11	RESISTOR, NETWORK (CHIP TYPE)	
RB162	1-236-908-11	RESISTOR, NETWORK (CHIP TYPE)	
RB163	1-236-908-11	RESISTOR, NETWORK (CHIP TYPE)	
RB165	1-236-424-11	NETWORK, RES 10K	
RB166	1-236-432-11	NETWORK, RES 47K	
RB167	1-236-424-11	NETWORK, RES 10K	
RB168	1-236-424-11	NETWORK, RES 10K	
RB169	1-236-424-11	NETWORK, RES 10K	
RB171	1-236-424-11	NETWORK, RES 10K	
RB172	1-236-424-11	NETWORK, RES 10K	
RB173	1-236-444-11	NETWORK, RES 470K	
RB174	1-236-424-11	NETWORK, RES 10K	
RB175	1-236-908-11	RESISTOR, NETWORK (CHIP TYPE)	
RB176	1-236-408-11	NETWORK, RES 470	
		< VARIABLE RESISTOR >	
RV301	1-238-853-11	RES, ADJ, CERMET 1K	
RV561	1-238-853-11	RES, ADJ, CERMET 1K	
RV562	1-238-856-11	RES, ADJ, CERMET 10K	
		< FLEXIBLE BOARD >	
W201	1-639-744-11	FP-391 FLEXIBLE BOARD	
W202	1-639-745-11	FP-392 FLEXIBLE BOARD	
		< VIBRATOR >	
X151	1-579-368-31	VIBRATOR, CRYSTAL	
X301	1-579-366-11	VIBRATOR, CRYSTAL	

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Ref. No.	Part No.	Description	Remark
		MISCELLANEOUS *************	
12	1-537-369-11	TERMINAL BOARD (JK-3100)	(E.Australian)
12	1-537-369-21	TERMINAL BOARD (JK-3100)	(AEP,UK)
16	1-537-368-21	TERMINAL BOARD (BATTERY)	
26	1-466-556-11	SW BLOCK, CONTROL (MF-3100)	
51	1-466-554-21	SW BLOCK, CONTROL (FK-3100)	(E.Australian)
51	1-466-598-11	SW BLOCK, CONTROL (FK-3101)	
54	1-466-555-11	SW BLOCK, CONTROL (CF-3100)	
121	1-547-483-11	LENS, ZOOM (VCL-606WA) (TYPE CAN)	
121	1-547-484-11	LENS, ZOOM (VCL-606WB) (TYPE TAM)	
124	1-547-491-11	FILTER BLOCK, OPTICAL (OFB-03-02)	
IC901	8-752-607-39	IC ICX045BKA-2 (CCD IMAGER)	
M901	A-7048-214-A	DRUM BLOCK ASSY (DGH-37A-R)	(E.Australian)
M901	A-7048-534-A	DRUM BLOCK ASSY (DGH-80A-R)	(AEP,UK)
M902	8-835-329-12	MOTOR, DC U-21A (CAPSTAN)	
M903	1-541-607-21	MOTOR, DC (LA12G-344VA) (LOADING)	
M904	3-708-323-01	METER ASSY, IG (IRIS) (TYPE CAN)	
M904	3-708-327-01	METER ASSY, EE (IRIS) (TYPE TAM)	
M905	3-708-321-01	MOTOR ASSY, AF (FOCUS) (TYPE CAN)	
M905	3-708-330-01	MOTOR ASSY, AF (FOCUS) (TYPE TAM)	
M906	3-708-320-01	MOTOR ASSY, PZ (ZOOM) (TYPE CAN)	
M906	3-708-328-01	MOTOR ASSY, PZ (ZOOM) (TYPE TAM)	
PS901	⚠ 1-532-841-41	LINK, IC	
PS902	⚠ 1-532-841-41	LINK, IC	
PS903	⚠ 1-532-841-41	LINK, IC	
V901	⚠ 1-452-565-11	CRT ASSY (M01KTA80WB)	

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The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

ACCESSORIES & PACKING MATERIALS

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Ref. No.	Part No.	Description	Remark
	A-6767-706-A	RFU ADAPTOR (RFU-89EA) (E)	
	A-6767-707-A	RFU ADAPTOR (RFU-89EA) (UK)	
	A-6768-254-A	RFU ADAPTOR (RFU-90E) (AEP)	
	A-6768-255-A	RFU ADAPTOR (RFU-90AS) (Australian)	
	1-465-807-91	REMOTE COMMANDER (CAM CORDER) (RMT-507)	
	1-571-164-11	SWITCH, ANTENNA CHANGE (CABLE) (UK, E)	
	1-573-291-11	CONNECTOR, CONVERSION (AEP, UK)	
	1-575-334-11	CORD, CONNECTION (AEP, UK, Australian)	
*	3-704-281-01	BAG, PROTECTION (STANDARD)	
	3-712-673-01	SCREWDRIVER (UK, E)	
	3-753-367-41	MANUAL, INSTRUCTION (ENGLISH) (AEP (BLACK), UK)	
	3-753-367-51	MANUAL, INSTRUCTION (FRENCH, GERMAN, SPANISH) (AEP)	
	3-753-367-61	MANUAL, INSTRUCTION (DUTCH, SWEDISH, ITALIAN) (AEP (BLACK))	
	3-753-368-11	MANUAL, INSTRUCTION (PASSPORT SIZE) (ENGLISH) (EXCEPT AEP (GRAY))	
	3-753-368-51	MANUAL, INSTRUCTION (PASSPORT SIZE) (FRENCH, GERMAN, SPANISH) (AEP, E)	
	3-753-368-61	MANUAL, INSTRUCTION (PASSPORT SIZE) (DUTCH, SWEDISH, ITALIAN) (AEP (BLACK))	
	3-753-368-71	MANUAL, INSTRUCTION (PASSPORT SIZE) (ARABIC) (E)	
	3-753-921-61	MANUAL, INSTRUCTION (ENGLISH) (E, Australian)	
	3-753-921-71	MANUAL, INSTRUCTION (FRENCH, GERMAN, SPANISH) (E)	
	3-753-921-81	MANUAL, INSTRUCTION (ARABIC) (E)	
	3-753-921-91	MANUAL, INSTRUCTION (CHINESE) (E)	
*	3-754-318-01	INSTRUCTION (AEP, E)	
	3-941-737-01	BELT, SHOULDER	
*	3-943-154-11	HOLDER, REMOTE CONTROL	
*	3-943-722-11	INDIVIDUAL CARTON (BLACK)	
*	3-943-723-01	CUSHION (UPPER)	
*	3-943-725-01	CUSHION (LOWER)	
*	3-944-656-11	INDIVIDUAL CARTON (GRAY)	
**	AC-V30	AC POWER ADAPTOR	
***	NP-55	BATTERY PACK	

Note

** MARK PARTS IS AVAILABLE FOR REPAIR SERVICE.
*** MARK PARTS IS AVAILABLE AS AN OPTIONAL ACCESSORIES.

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HARDWARE LIST

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Ref. No.	Part No.	Description	Remark
#1	7-627-852-18	SCREW, PRECISION +P 1.7X4 TYPE3	
#2	7-624-102-04	STOP RING 1.5, TYPE -E	

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